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Volume One, Number Seven
September, 1982

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THE GAMERS' BILL OF RIGHTS

by ARNIE KATZ

Did you ever feel like jumping right through the telephone and strangling the person at the other end of the line? I had to fight back the urge to do exactly that one day a couple of weeks ago.

I was talking with the owner/general manager of a medium-size publisher of computer game software at the time. What could turn a mild-mannered—though dynamic—magazine editor into a seething man-monster? It only took one sentence. I had just told him that his latest game, like several of his other titles, was riddled with so many programming mistakes that it was totally unplayable. "There's no such thing as an error-free program," said the company president and then, well, I don't remember the rest too clearly.

Admittedly, this guy is out of step with the rest of the electronic gaming industry. Most software company officials are reasonably sensitive individuals who want customers of the software they make to be satisfied with their purchases.

Still, every barrel has at least a couple of rotten apples in it, and the gaming public must be protected from unscrupulous operators who are only out to grab a quick buck.

Obviously, what's needed is a set of standards. It would also be far better for the hobbyists and the manufacturers to formulate guidelines based on the common desire to see electronic gaming prosper, rather than to wait for the federal government to stick in its oar.

With that in mind, **EG** presents a proposed Electronic Gamers' Bill of Rights:

1. Every game tape, disk, and ROM cartridge should perform as specified by its advertising and packaging.

2. Every game should be original. That is, the design should be more than a licensed copy of an existing electronic game.

3. Every computer game package should state the required memory capacity needed to play the game, the type of control input (joystick, paddle, keyboard or some combination) used by the arcader and the system or systems on which the game media will run. In addition, there should be a photo, illustration or diagram of the principal video display somewhere on the package.

4. Every electronic game should come with a complete, well-organized set of instructions that cover every essential element the player needs to know.

5. The publisher of any electronic game should stand ready to replace a newly purchased copy which is unplayable due to faulty workmanship.

6. An electronic game should be completely free of programming errors and should not require repair or modification by the gamer (unless such modifications are implicit in the design of the game and are spelled out clearly on the package.

7. Every coin-operated electronic game in a commercial amusement center should be exactly as shipped by the manufacturer, modified only by the manufacturer or a licensee. In other words, independently produced extra boards which distort the original play action and raise the odds against the player should not be used.

This may not be a perfect Bill of Rights for electronic gamers, but **EG** believes it is at least a constructive start. This magazine welcomes comments by both electronic gamers and representatives of all segments of the electronic gaming industry.

Pinball Palace—Opening Soon!

A new name has started popping up in our pages in recent issues, Roger C. Sharpe. You'll be seeing that by-line even more frequently in coming months, because Roger will be authoring a new column, "Pinball Palace", beginning in October.

This is new territory for **EG**, since we previously covered only the electronic *video* coin-ops. But the flipper games have gone space-age, too, and there's no one better equipped to cover them than Roger Sharpe. He wrote the magnificent coffee table book, *Pinball* and has even designed tables for major manufacturers.

Roger will be telling you about the latest new games each month, as well as offering some hints for beginning players that will help you get into the latest flipper machines—and even the revolutionary ones that don't feature the familiar little bats.

So even if you are primarily a videogamer, pay a visit to our "Pinball Palace" and check out the new kid on the block.

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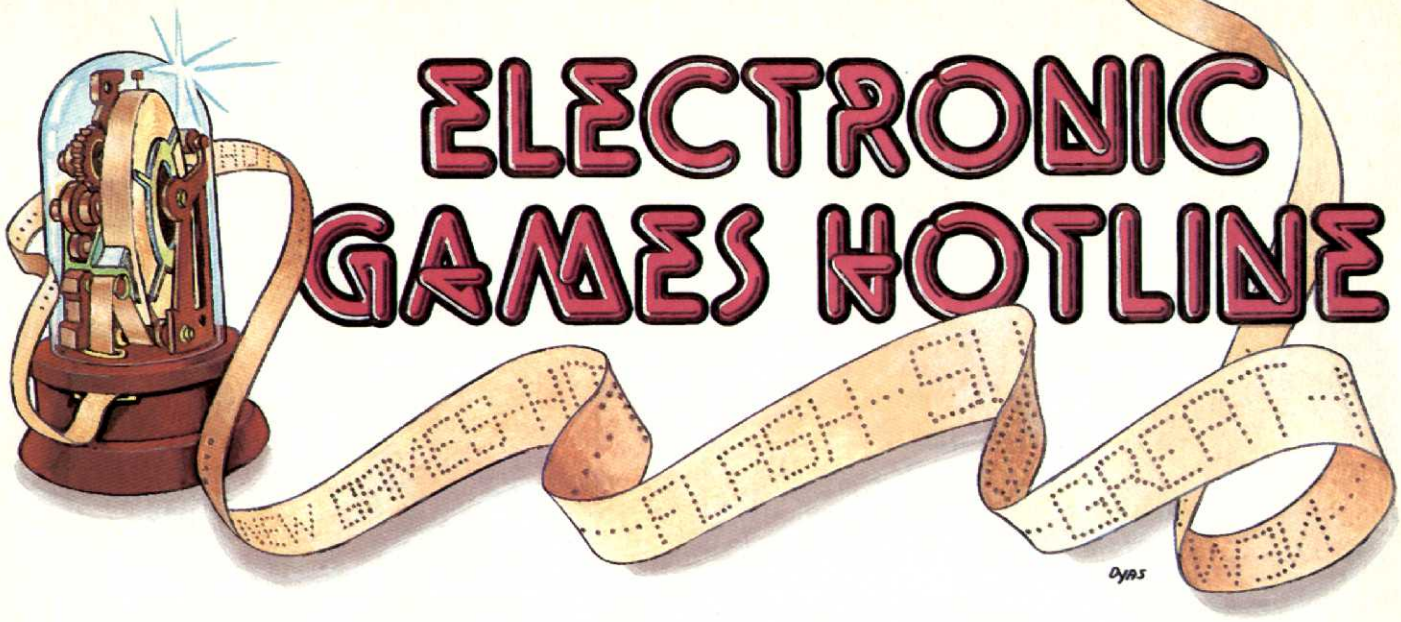
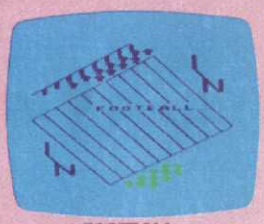


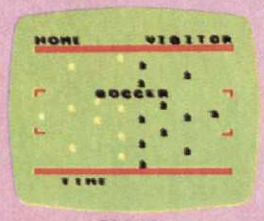
EMERSON UNVEILS ARCADIA 2001

Emerson Radio expects to have a new videogame system, along with 20 game cartridges, in the stores in time for the holiday gift-giving season this year. Dubbed *Arcadia 2001*, the new machine has a number of desirable features including a 12-volt system to make it usable in trailers, campers, cars and boats, cable-ready connections and a controller that easily switches from an Intellivision-style direction disk to the more traditional joystick. Another nice touch is a power on-off light, to prevent home arcaders from accidentally leaving the system going after a play-session.

Arcadia 2001 will get heavy software support from the company, promises Emerson's senior vice president of marketing Sonny Knazick. There will be 30 cartridges for the system by the end of this year, with another 20 scheduled to appear in 1983. Also planned for next year is an even more advanced version of the *Arcadia 2001*, though no details of this second generation unit are available at the present time.



FOOTBALL



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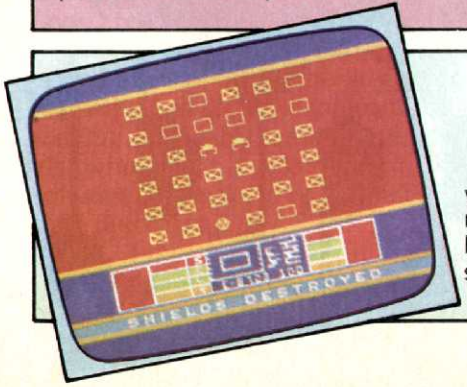
MARAUDER
Alien robots have invaded! You must make your way to safety and recapture the cosmic treasure. Maneuver your way through 9 different mazes. Watch out for the alien robots hidden throughout the mazes. Shoot them or they will shoot you. Time is against you. The ultimate experience in alien invasion on Tigervision.
MARAUDER (VCS)



ARCADIA UNVEILS VCS UPGRADE

This isn't your garden-variety ROM cartridge. A new company called Arcadia has made what it believes is a significant breakthrough for the VCS. It's a RAM cartridge which, when plugged into the regular slot in the VCS console, increases screen ROM from the standard 128 bytes to over 6,000.

Dubbed the Super-charger, this device will markedly upgrade the graphic capabilities of the VCS, providing greater resolution and the ability to move more objects around on the playfield.

Arcadia will shortly release

PAC-MAN REIGNS SUPREME

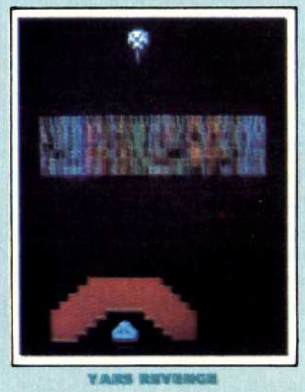
The joy continues unrefined at the offices of the manufacturers of **Pac-Man** in its various incarnations. While the Namco/Midway coin-op—which started it all, of course—holds onto the top slot in the coin-op division of **Electronic Games'** monthly reader popularity poll, Atari's cartridge for the VCS did the same in the programmable videogame cartridge category. (The Atari ROM cartridge for its 400/800 computer system was not available commercially before the deadline for this month's voting.)

Star Raiders, too, maintained its first-place ranking. There are signs of a coming shake-up there, however. *Star Raiders*, though certainly no less magnificent than it was last fall when it began its dominance of the poll, must compete with literally hundreds of new computer programs. It's still number one, but it no longer enjoys a two- or three-to-one superiority over the rest of the games on the list.

The hottest new videogame cartridge appears to be Imagic's **Demon Attack**. This invasion-type game vaulted into the fourth spot in its very first month of eligibility. Doing nearly as well is Activision's Grand Prix. The steering game with gorgeous graphics popped into the fifth slot.

A couple of relatively new cartridges just missed making the videogame "top 10" this month. Mattel's **Star Strike** and Atari's **Yars Revenge** each lacked only a few vote-points of qualifying for the list.

Ms. Pac-Man scored the biggest gain on the coin-op list, leaping into the fourth position. **Space Duel**, a sort of sequel to **Asteroids**, looks like it may pick right up where the older title left off.



YARS REVENGE

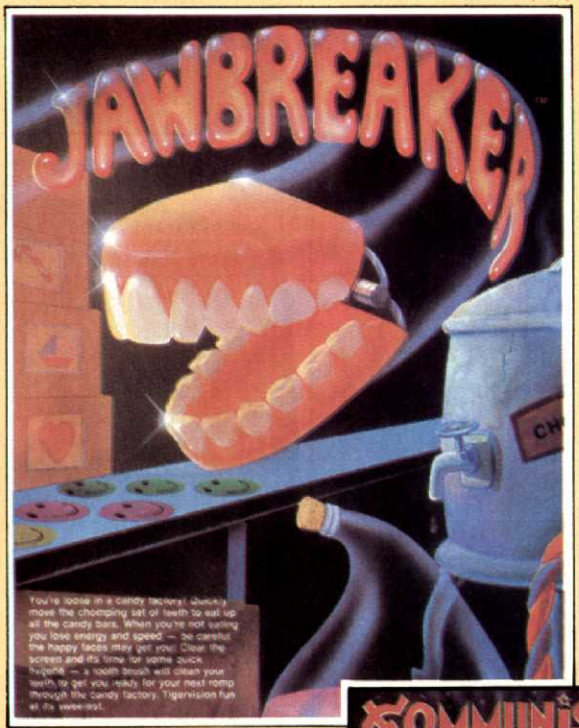
TIGER ROARS

Add Tiger Electronics to the list of companies intending to make cartridges for the Atari VCS. The toymaker has formed a new division, Tigervision, under the direction of Randy Rissman to handle its videogame software activities.

The first five releases, due out this summer are:

- **Jawbreaker.** This will be a videogame adaption of the concept On-Line Systems used in its popular program for the Atari 400/800 computer.
- **King Kong.** Licensed by Universal, this cartridge makes the arcader a hero attempting to climb the Empire State Building, to rescue the lady who has become the captive of the great ape.
- **River Patrol.** Pilot your boat up the treacherous river while avoiding the banks, rapids and other hazards.
- **Marauder.** This maze-shoot-out dares the arcader to venture through an endless maze, populated by laser-firing robots.
- **Threshold.** Fly your spaceship through a vertically scrolling tunnel while attempting to shoot down the alien attackers. This cartridge, like *Jawbreaker*, is based on a popular On-Line Systems computer game.

JAWBREAKER (VCS)



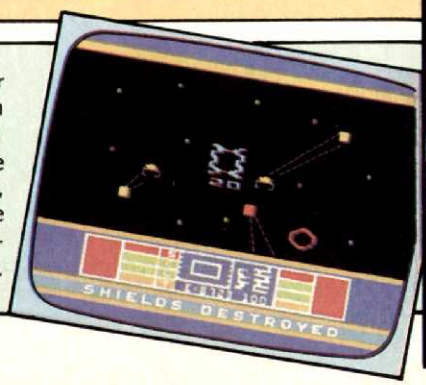
SIMON CHAMP EARNS $10,000

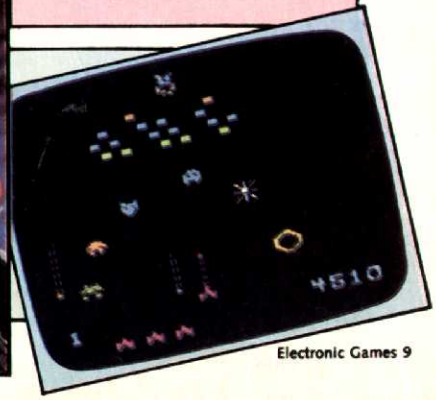
Frank Modic, a 24-year-old student at New York City's Columbia Medical School, has obviously taken enough time away from the books to become mighty proficient at **Simon**. The future doctor defeated nine other regional winners to capture the United States Simon Championship.

By beating the best in a late March showdown at Studio 54, Modic took home a $10,000 prize and established himself as the master player of Milton Bradley's hugely popular stand-alone electronic game. Finalists represented the very best *Simon*-ers from Los Angeles, San Francisco, Dallas, Atlanta, Chicago, Boston, Washington D.C., Philadelphia, Springfield (Mass.) and New York City.

Jim Ferraro of Arlington, MA, representing Boston in the finals, proved to be the toughest challenger. He lost to Modic in the play-off round to capture second place in the tournament.

an initial group of four games, all playable with Supercharger-equipment machines. The games will be published on tape cassettes, which are connected to the VCS via an interface attached to the Supercharger.





MOVE OVER TRON

Disney's *Tron* will not be the only film giving viewers an inside scoop on videogames. A Los Angeles-based science fiction radio program recently announced news of one of the plot elements in the upcoming *Superman* 3 feature. Advance word has it that the Man of Steel becomes trapped in a deadly video version of a **Dungeons and Dragons**™-type game. He must utilize his superpowers to overcome various creatures and, advancing level by level, escape from the maze.

And who is the evil genius that imprisons Superman? No, it's not Gene Hackman as Lex Luthor this time, but a more dastardly villain in the guise of Richard Pryor, playing a real-life wizard.

Christopher Reeve will be back as one of the stars, joined by a newcomer, Annette O'Toole. She portrays the new love interest, Lana Lange (viewers of **Superman I** will remember Lana as the young Clark's girlfriend in the early Smallville sequences.)

At first the producers were not going to ask Margot Kidder to recreate her role as Lois Lane, saying that they had taken the Superman/Lois relationship as far as it could go, and like most high-flying infatuations, it had run its course. However, Kidder's agent announced that she has been sought out to reprise the role. Her acceptance of the part is still under discussion. It appears that there is more to do with the Lois Lane character then they thought. If she accepts, a juicy love triangle could develop between Superman, Lois, and Lana; otherwise, they might have to be content with using Jimmy Olsen.

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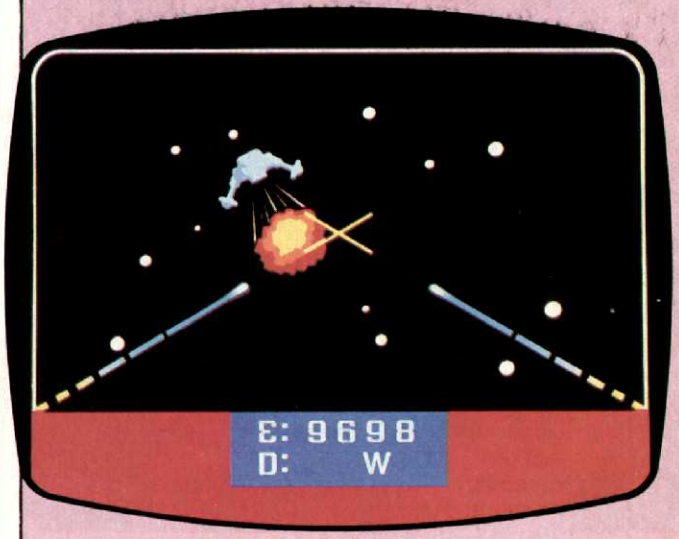
Ron Duguay, ACTV President Jim Levy and Brian Trottier

TROTTIER SWEEPS ELECTRONIC STANLEY CUP

No sooner had the players unlaced their skates and slipped off their protective gloves than members of the Big Apple's two prize NHL hockey franchises were at it again—at least in the world of videogames. Brian Trottier, rugged center for the three-time champion Islanders and popular Ranger right-wing and (poster boy) Ron Duguay squared off recently at Macy's Herald Square store for the videogame Stanley Cup—Activision-style.

Before the match, rumors were flying regarding Trottier's skill at the Alan Miller-created sports simulation, **Ice Hockey,** but as local sports celebrity and former NHL referee, Bill "the Big Whistle" Chadwick ignited the play-by-play with the drop of the electronic puck, it was the Ranger golden boy who swept to an early lead. Playing like a joystick-controlled Wayne Gretsky, Doogie dented the netting some six times before



STARMASTER

ACTIVISION CLOSE-UP

• Activision, the leading software-only manufacturer of VCS-compatible game software, has announced that they are now producing Intellivision format versions of their top cartridges. The initial entries into the Mattel line-up are Bob Whitehead's **Stampede** and David Crane's brand new **Pitfall,** with both translations being done by the original designers. Check the stores just before Christmas for the first shipments.

• **Starmasters** get ready!

Trots finally answered with a score of his own. This riposte was quickly followed up with nine more consecutive scores from the Islanders' representative, giving him the first win in the two-out-of-three-game series. The second contest turned out to be a mere formality as Trottier's rumored prowess came to the fore, overwhelming Doogie by gaining an insurmountable early lead and holding firm. Despite the fact that true blood-and-guts sports fan Miller designed *Ice Hockey* without electronic linesmen and referees, there was surprisingly little rough stuff on the screen as the video gamesmen played hard but clean.

However, both pros took their lumps from the brigade of young *Ice Hockey* superstars Activision had lined up from local-level competitions. The corp of pint-sized puck-handlers took turns driving the stars into the ice with the top honors going to Ted Leibowitz of Forest Hills, who took an especially lopsided victory over Duguay.

This summer, Activision is staging a special tournament. The winners from six age categories will be flown to Hollywood for a Tinseltown blow-out that includes a day on the set of "The Greatest American Hero" where they'll take part in a special filming with show stars Robert Culp and William Katt. The best score on the game—played only at the highest difficulty level—can be sent to Activision by using the entry forms available at all retail outlets. The deadline is September 20th, so sharpen up them trigger fingers.

For further details on this, and all other Activision goings-on, check out *Activision*, the company's own, color newsletter. They regularly hold high-score contests (via photos taken of TV screens by the gamers) and keep fans posted on the latest game releases.

To find out more about *Activisions* write c/o Activision, Drawer 7286, Mt. View, Ca.

Electronic Games' Picked Hits

Most Popular Videogame Cartridges

Position This Month	Position Last Month	Game	System	Manufacturer
1	1	Pac-Man	Atari VCS	Atari
2	2	Missile Command	Atari VCS	Atari
3	3	Adventure	Atari VCS	Atari
4	-	Demon Attack	Atari VCS	Imagic
5	-	Grand Prix	Atari VCS	Activision
6	4	Kaboom!	Atari VCS	Activision
7	7	Asteroids	Atari VCS	Atari
8	8	Major League Baseball	Intellivision	Mattel
9	-	Super-Breakout	Atari VCS	Atari
10	8	K.C. Munchkin	Odyssey²	Odyssey
	-	NFL Football	Intellivsion	Mattel

Most Popular Computer Software Programs

Position This Month	Position Last Month	Game	System	Manufacturer
1	1	Star Raiders	Atari 400/800	Atari
2	3	Missile Command	Atari 400/800	Atari
3	2	Jawbreaker	Atari 400/800	On-Line Systems
4	5	Protector	Atari 400/800	Synapse Software
5	-	K-razy Shoot-Out	Atari 400/800	K-Byte
6	-	Ghost Hunter	Atari 400/800	Arcade Plus
7	4	Castle Wolfenstein	Apple II	Muse
8	6	Empire of the Over-Mind	Atari, Apple, TRS-80	Avalon Hill Co.
9	-	Asteroids	Atari 400/800	Atari
10	10	Wizardry	Apple	Sir-Tech

Most Popular Coin-Op Videogames

Position This Month	Position Last Month	Game	Manufacturer
1	1	Pac-Man	Namco/Midway
2	3	Defender	Williams
	4	Donkey Kong	Nintendo
4	-	Ms. Pac-Man	Midway
5	2	Tempest	Atari
6	5	Centipede	Atari
7	-	Berzerk	Stern
8	-	Space Duel	Atari
	10	Stargate	Williams
10	-	Crazy Climber	Nichibutsu

Readers Choose Top Games

Since mere *quantity* of play doesn't necessarily equal actual popularity, **Electronic Games** bases its standings on the votes of its readers. These lists of most popular games are based on the more than 800 Reader Polls. We update the "picked hits" lists in every issue of **Electronic Games**.

So send in your votes!

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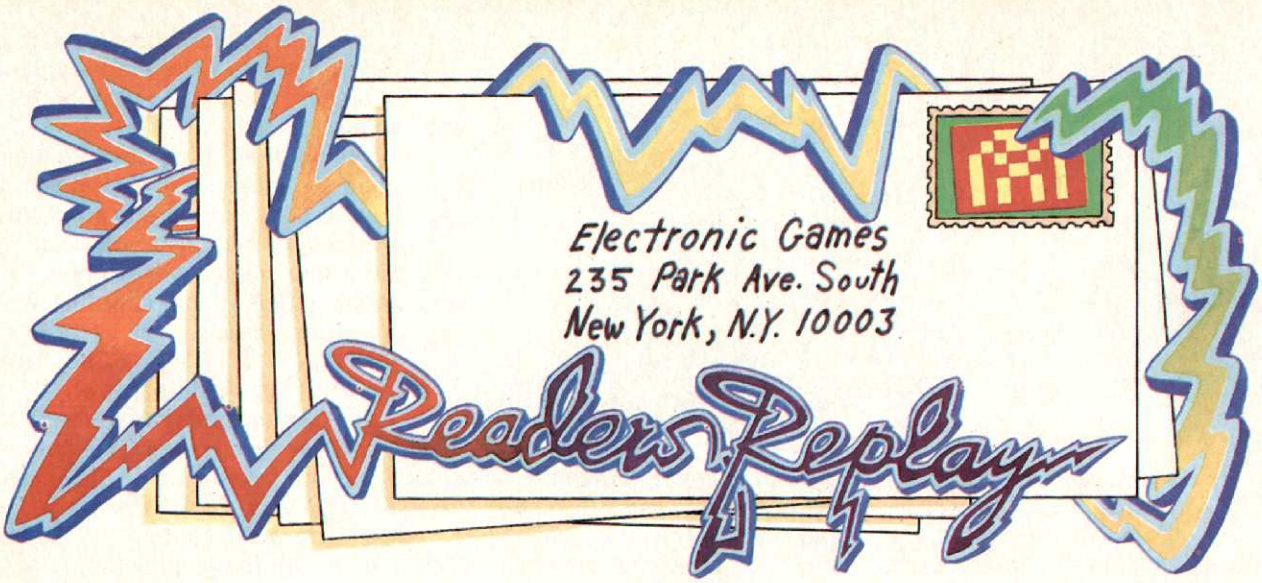
"Phaser Patrol™ is the best home video game I've ever played on any set."

Andy Breyer
Champion
1981 International Atari® Asteroids™ Tournament

Andy Breyer

"The graphics on Phaser Patrol™ are as good as on many arcade games. And the game itself is designed to stay challenging. Even to me."



EQUAL TIME FOR COIN-OP GAMES

I would like to see more strategy in the "Strategy Session" column concerning commercial arcade games. Also, different people have different plans for winning, so please look at some games from more than one viewpoint.

Robert S. McKenzie
(no address given)

Ed: As you know by now, your plea has been answered. Coin-Oppers now have a strategy column exclusively devoted to their favorite brand of electronic gaming conducted by the inimitable Bill Heineman.

You're also dead right about different gamers having different ways of reaching those big scores. That's why our two super strategists always check with each other, other **EG** *editors and top players from coast to coast before penning a how-to-play piece.*

SCORE AN ERROR

I agree completely with your choice of **Major League Baseball** by Mattel for the Intellivision as the best baseball videogame. We play it constantly.

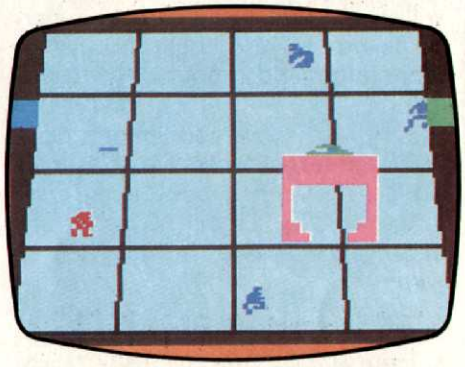
However, I managed to notice some that Mattel overlooked. The dugouts for the home and visiting teams are on the wrong sides and should be switched.

Dennis McKernan
Wayne, Pa.

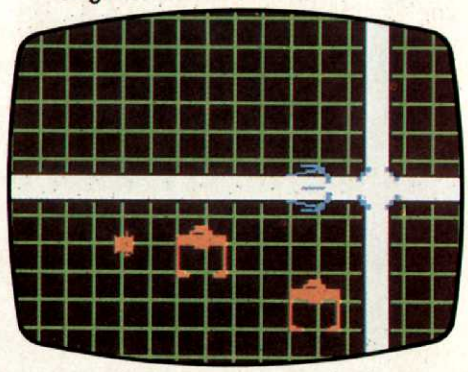
Ed: If you're right, Dennis, perhaps Mattel's designers ought to spend at least a little more time at the stadium and less at the design consoles. Of course, then we wouldn't have Hall of Fame games like **Major League Baseball**.

WANTED: INTELLIVISION GAMES

I've read, in the last couple of issues of **Electronic Games,** about different companies coming out with software for the Intellivision. So far, I've seen a lot of new software, but none for the Intellivision. In all the stores which



Deadly Discs (above) and Solar Sailor (below) are two of Mattel's upcoming Tron games for Intellivision.



carry videogames, all I see is cartridges for the Atari by companies such as Imagic, Apollo and Activision.

Robert Mass
Anaheim, Ca.

Ed: Your impression that most of the independent software producers are concentrating on the Atari VCS, at least so far, is quite correct, Robert. The main reason for this is that there are more VCS units out there in gaming-land, and therefore a large potential market for new VCS-compatible cartridges. Check **EG** *next month for the lowdown on who is going to be producing what games for the Intellivision, because there's good news coming for owners of that senior programmable videogame system.*

MORE COVERAGE FOR TI?

The biggest peeve I have about your magazine is that you neglect the owners of other computers. I personally own a Texas Instruments TI 99/4 and would like to see present and forthcoming software covered. The only computers you give any coverage are the Atari and Apple!

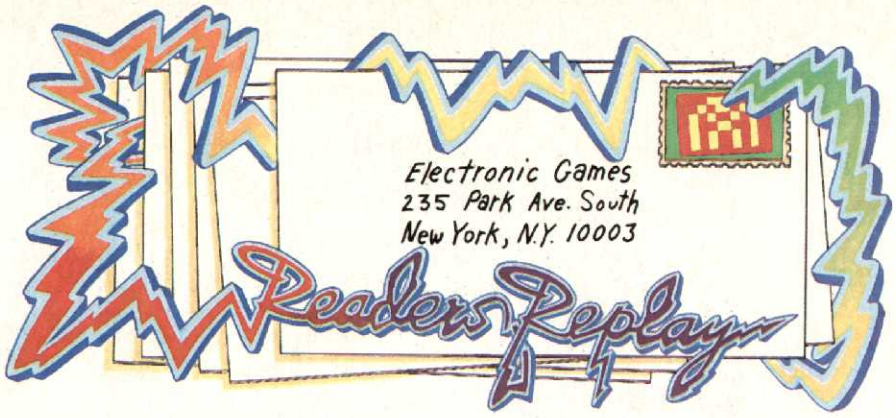
Other than that, I think you have a great magazine. I hope that, in the very near future, you begin covering other computers for your readers who can't afford to buy a big-name computer.

Michael B. Stern
Fairmont, W. Va.

Ed: Our computer game coverage includes the TRS Color Computer and VIC-20 as well as the Apple and Atari, with every likelihood that we'll bring other systems into the action as their popularity grows. In the case of the TI, we have repeatedly tried to get their company to provide materials for review. Sad to say, nothing concrete has happened, despite repeated promises of cooperation.

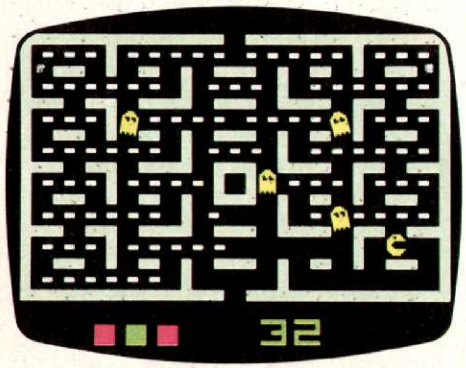
A PAC-MAN PARTISAN SPEAKS

Now you have done it! In the June issue of **Electronic Games,** you wrote a story about Atari **Pac-Man** that in-



sulted the owners of the cartridge. In the "Programmable Parade" section you gave excellent comments to every one of the cartridges throughout each story. However, the story on *Pac-Man* was full of put-downs.

Have you ever thought that Atari's *Pac-Man* is the closest, in audio and visually to the coin-op *Pac-Man*, when compared to Texas Instruments' **Munch-Man** or Odyssey's **K.C. Munchkin**? The cartridge acts the same way as the arcade version as far as movement goes. The only difference is that the Atari *Pac-Man's* face only faces from side to side. Response on the joystick is probably the best of all the *Pac-Man* imitations.



VCS PAC-MAN

If you can't say anything good about a cartridge, then don't say anything at all!

John Giaimo
Trenton, Mich.

Ed: I think that if you'll reread that article, John, you'll see that it says both positive and negative things about the cartridge. It is very important to distinguish between a reasoned, though negative, review and one which merely hurls unsupported barbs. Our critics detected some serious flaws in Atari's **Pac-Man** *and, even while acknowledging that it is the best maze-chase for the VCS, told the readers about them. Certainly, no insult was intended either to Atari or owners of its system. No game is so good that it can't be improved.*

The editors of this magazine take strong exception to your closing comment. We feel it's our duty to report both the positive and negative aspects of everything. If our reviewers don't state their opinions honestly, how can readers trust their judgment when they praise a new cartridge?

CARTRIDGE COMPATIBILITY

I am an owner of an Atari VCS. I was wondering if the cartridges for the VCS will work with the new Atari Supergame system? Also, could you give me more information about it?

Jim Kellogg
Colorado Springs, Colo.

Ed: Cartridges for the two Atari units can't be swapped back and forth. Watch for the October **EG** *for specific details about Atari's new deluxe game-player.*

A POTENTIAL DESIGNER?

I am a devoted electronic game player and the owner of an Atari VCS. I am also very interested in designing new games for home and coin-op use. I have sent several ideas to Atari, but due to its extensive internal research operation, the company could not accept my ideas.

I know BASIC programming, have a good knowledge of electronics and have always been a pretty good artist. I would appreciate it if you could give me a few suggestions on how to go about finding a company that would accept my ideas.

Chris Snyder
Morgantown, W. Va.

Ed: Our upcoming feature on how to prepare for a career as a game designer will have much of the information you seek, Chris. Meanwhile, you might consider starting to learn assembly language programming, as that is preferred by most game software publishers.

THE FUTURE OF THE VCS

Now that Atari's Remote Control Video Computer System has been scrapped in favor of the new Supergame, will Atari continue to be dedicated to release new cartridges for the Video Computer System? Although they plan 12 cartridges (plus two from Sears) this year, what about next year? Can the old system live alongside the new one or will Atari try to push the Supergame and throw the older model into obsolescence?

Although VCS owners will be bombarded with software from half a dozen companies, it will still be reassuring to know that Atari will continue to produce great games.

Leonard Herman
Roselle Park, N.J.

Ed: Don't put that VCS in mothballs yet, Len. Atari intends to keep supporting it for the foreseeable future.

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By THE GAME DOCTOR

Yes, yes, nothing the old doctor of game-ology likes better than a stacked waiting room. Is the air conditioner turned up too high? Not enough magazines to read? Well, folks, you know how it is in doctors' offices. So let's just ask the questions and get on with the answers so the doc can try out that latest videodisc/computer golf simulation!

As always, we start off each column with the best question of the month. Oh, by the way, we're right in the midst of having those **EG** shirts made up, so you winners from issues past should be dressing mighty smartly any day now.

Q: *I'm a reader of your magazine and I think it's great. The only thing lacking is a page possibly devoted to the question of "what is a good score" on any given game and variation. I'm sure millions of gamers are playing their games with absolutely no idea of what constitutes a score that's kid stuff, average or great.*

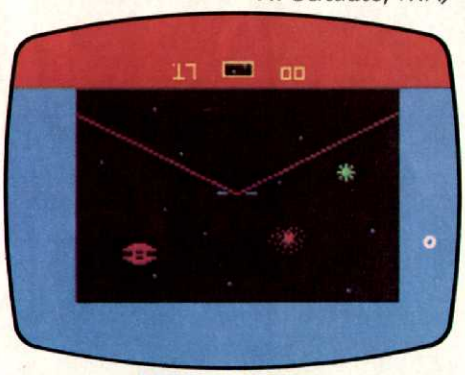
(from Claude A. McHugh, El Paso, TX)

A: Now that is a good idea, Claude. It's so good, in fact, that the editors of this erstwhile publication have written the first in a series of books detailing rules and strategy for home videogames. The debut entry, "The Player's Strategy Guide (to Atari VCS Home Video Games)" is already available, and covers games compatible with the VCS, such as Atari, Activision and Games by Apollo contests. In addition to the strategy stuff, each game that's gone over in detail lists a rating guide to tell you just how hot a shot you really are.

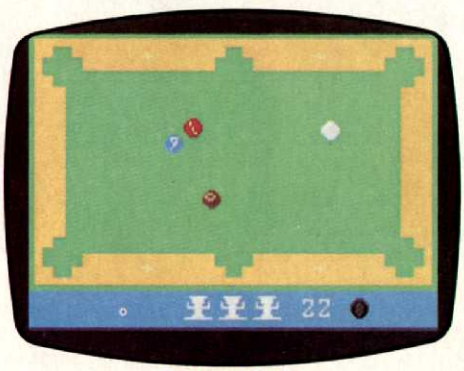
Future books will cover other games and systems, and **EG** itself will devote more space in the future to just that subject.

Q: *I own an Atari VCS and before I bought my first issue of* **EG** *I thought the only games I could buy for it were Atari and Activision cartridges. I would like to know if you could give me the address of the Imagic company, as well as any others producing compatible VCS game cartridges.*

(from Rob McGlone, N. Scituate, MA)



STAR VOYAGER



TRICKSHOT

A: The fact is, Rob, there are now so many companies producing game cartridges for the VCS that even the Game Doctor himself has trouble keeping track of them all. The latest count included the three companies you mentioned, plus: Coleco, Parker Bros., Arcadia, CommaVid, Telesys, U.S. Games, Mattel, Tigervision and probably a half-dozen others that have either slipped the somewhat-senile medico's mind or announced production since I started typing this sentence.

The answer is to follow the retailers—the stores in your area that sell videogames. It may take some time—after all, you're hearing about events ahead of time in **EG,** especially in "Hotline". But if the local merchants don't have all the titles you're interested in, check out the mail order advertisers who generally will send out complete catalogs at minimal cost.

Q: *I am planning to buy an Atari 400 and I would like to know if Activision cartridges can be played on that system. If not, will Activision be producing cartridges for the Atari computer?*

(from Ray A. Stewart, Plaza Del Ray, CA)

A: Sorry, Ray, but the Activision cartridges will *not* run in the Atari computers—and neither will any other VCS-compatible game for that matter. As to whether Activision will soon be providing 400/800 software, the answer is probably not before the end of next year. There are so many Atari VCS units in circulation around the world that the number of computers made by the Lords of Sunnyvale, though substantial and growing in leaps and bounds, is still too small for the major producers to cater to. Personally, the software sawbones would just *love* to see more 400/800 games from designers such as ACTV's Alan Miller, who created that system's remarkable 4-player **Basketball** cartridge.

BASKETBALL

Still, more and more companies—computer software manufacturers and new entries—such as K-Byte, are producing independent cartridge games for the 400/800, and more are on the way. What you might want to look at as well, might be the cassette player that interfaces with the Atari computers (the 410) or a compatible disk drive. Drives are notoriously expensive—often costlier than the computer itself—but all the fantastic games available on tape and disk for the Atari systems make them look like pretty good buys.

Q: *I have two questions: one, why are arcades changing from the use of quarters to tokens to operate their coin-op machines; two, why is Activision working along with Atari?*

(from Jeff Varley, Hill AFB, UT)

A: First answer: because if you give an arcade operator a dollar and he gives you four quarters you might spend all four quarters, or three, two, one, even none. If you have four tokens, what else can you do with them but play the games? Also, should you leave the arcade with a few in your pocket, it practically guarantees you'll be back to spend 'em, sooner or later. It also simplifies bookkeeping procedures and cuts down on employee-theft.

Besides, the game doc is a token collector! Everywhere this old cartridge croaker wanders, giving answers to the questioning and ailing game-players throughout this great land, he collects the tokens from the local arcades. Some of them are quite interesting, and generally designed with real creative flair.

Your second question somewhat mystifies me—which many have tried to do, heaven knows—but what do you mean by "working along with"? The two companies did come to terms with regards to the legal technicalities, but by producing games for the VCS, Activision is simply servicing the largest market. Not that they've forgotten the other systems, as you'll see in future issues of **EG** (he hints mysteriously . . .).

Q: **EG** recently made mention of a magazine called A.N.A.L.O.G.. I have looked far and wide and have been unable to find a copy. I'm interested since you mentioned it covered Atari products—could you please give the magazine's address?

THRESHOLD

(from Jerry Bush, Jr., Jerseyville, IL)

A: A.N.A.L.O.G. can be reached c/o P.O. Box 23, Worcester, Mass. 01603. They specialize in coverage of the Atari computers, but also give casual treatment regarding the VCS and compatible cartridges.

Of late, the magazine has even spawned a software company, producing games such as **Race in Space** and **Shooting Gallery** for the Atari computers.

Q: *Please tell me everything you can about Atari's System X.*

(from James Pano, Trenton, N.J.)

MISSILE COMMAND

A: Right now, there isn't much to tell, James, beyond the fact that the system is currently being dubbed the Supergame. There will be twelve initial cartridges, including sports and familiar arcade titles (**Centipede, Missile Command,** etc.).

Unfortunately, we at **EG** have yet to personally test the system and are unable to go into great detail. The graphics are quite similar to those on the Atari-produced ROM cartridge games for the 400/800 computers, but the sports games promise some really exciting frills—such as clouds of dust produced by sliding base runners.

But rest assured, as soon as the word on the Supergame is out, **EG** will be there to give you the lowdown.

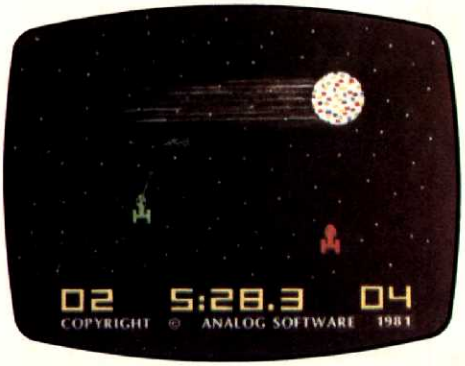
Q: *Will you please clear up all the silly talk about videogames ruining TV sets! My parents have banned me from arcades, and an Atari VCS is my only hope, but they say it will mess up our family (color) set.*

(from Billy Minium, Kingsville, TX)

A: Okay, mom and dad, bend an ear to the wise old game medic and get the final word on videogames and color TV sets: they will not hurt any color set unless they are at least seven years old. The Atari VCS, Odyssey², Intellivision, ColecoVision and all the new, color systems have highly sophisticated color changing routines in them that will absolutely eliminate *any* danger of

DEMON ATTACK

RACE IN SPACE



the images burning into the TV screen, as they did on some of the primitive b&w ball & paddle systems.

Do you seriously think such important companies would release a product that did actual damage to a family set? They'd spend all their time in court, instead of of creating the next **Starmaster** or **Super Breakout!**

Q: *Doctor, in the January 18, 1982 issue of "Time" there was a playfield of a game similar to* **Pac-Man** *except the gobbler had eyes and legs. What is the game?*

(from Peter Ashdown, Bountiful, UT)

A: Hmm, the doc's library doesn't seem to contain a copy of that particular issue, so my answer is based solely on conjecture. In the course of that piece, several games were shown which were, essentially, **Pac-Man,** but which were actually "tampered with" versions of the original. Unless these games have Midway's permission, they are basically pirate editions and quite illegal. Occasionally, however, variations on existing games are permitted.

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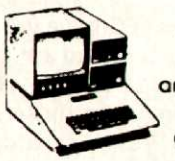

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Q: *Soon I'll have both an Atari VCS and an Intellivision. I would like to know if I can hook up the two different switchboxes to the same TV to make transfering from one console to the other a little easier?*

(from Jerry Yarberry, Jax, FL)

A: Good news! Both systems use the very same RF box that hooks up to the back of your television's VHF terminals. Therefore, you can simply unplug the jack from one system and replace it with the other.

There are, however, several video mixers available and for a detailed report on these marvelous devices, see this month's installment of "Test Lab".

Actually, though, virtually all of the popular videogame and computer systems in use today avail themselves of that familiar silver RF box—one of the *very* few instances of compatibility in the electronic games field.

Q: *I was wondering how a company goes about getting the rights to a particular game. When a company produces a game such as* **Space Invaders,** *does it have a copyright on it so no one can copy it, or is it legal for a company to produce a similar invasion-type game such as* **Space Invaders?**

(from Chris Faust, Beverly, MA)

A: Tell you what, Chris, that's such a good question that the Doctor is going to break format and send you an **EG** tee-shirt too. The answer, however, is not so simple. The early videogames, such as *Space Invaders,* were *not* protected by copyright, hence the endless duplication of SI-type space shoot-outs for virtually every system capable of playing videogames. In fact, designers from those bygone days (way back in the middle and late seventies, for you old-timers) freely admit that companies borrowed—to put it politely—game ideas, graphic tricks, et al, as standard operating procedure.

Remember, in the beginning, most games were turned out by single designers. Now, the chances of any one human being being a brilliant game conceptualist, a master of graphics and audio effects *and* peerless programmer were pretty slim. As a result, most designers concentrated on souped-up or just dead knock-offs of existing coin-ops and the best product from rival catalogs. The advent of team designing is one of several means by which

modern game concepts have become more innovative, as has the greater graphic flexibility of the creative software itself.

But to get back to the legal matter, the question of what constitutes copyright infringement is one being fought in the courts even as you read this. Atari has already demonstrated its willingness to defend games it owns rights to—witness the **Pac-Man-K.C. Munchkin** litigation—and we are now even seeing coin-op manufacturers purchasing *arcade rights* to games designed for home systems! Where it will all end, even the grizzled Programmable Practitioner can't say.

Q: *I am an Odyssey²owner and am wondering if they plan on making home versions of any commercial arcade games, as Coleco will now be supplying both the VCS and Intellivision with versions of games such as* **Donkey Kong.**

(from Curt Abbott, Burlington, IA)

A: A reliable source at Nashville informs us that the Odyssey² is far from being out of the running with regard to licensing home versions of arcade hits. More than this we cannot say at the moment, but keep those ears perked!

More good news for 0² owners comes from Imagic, by the way, who will now be producing a *third* version of their smash VCS/Intellivision cartridge, **Demon Attack.** As their ads will surely point out, you just won't be able to escape them demons—not that any self-respecting gamer would want to!

Q: *Why doesn't Atari offer a full-size keyboard for the VCS, and also why don't they offer memory-expansion modules for the VCS?*

(from Richard Bark, Bearsville, NY)

A: First off, you must remember that VCS, despite what its initials may stand for, is not a computer, but a microprocessor designed to play games.

Atari is, however, through their use of the keypad *and* joystick in conjunction (as in the VCS version of **Star Raiders)**, they are expanding the input possibilities of the software, which should lead to more complex and interesting games.

As a computer, however, you really should look elsewhere. Perhaps the 400/800 series.

Q: *I greatly enjoy my Atari VCS, but I have a perplexing problem. The TV set that I have my Atari on shows interference and color – is it the Atari or the set?*

(from Richard Chernitzer and Michael Simon, Norfolk, VA)

A: If reception on the other channels is good, it's probably the Atari. Check out **EG #3** for an example of a common problem. Might also be your RF box—and make sure all your wires are properly connected and that you're playing the system on your particular area's "dead" channel.

And that about brings down the curtain on Game Doctor for this session. So keep those cards and letters coming in—it warms the old doc's heart to see big, fat bundles of questions and we're only sorry each one can't be answered individually.

Till next time, stay healthy, and keep on gaming!

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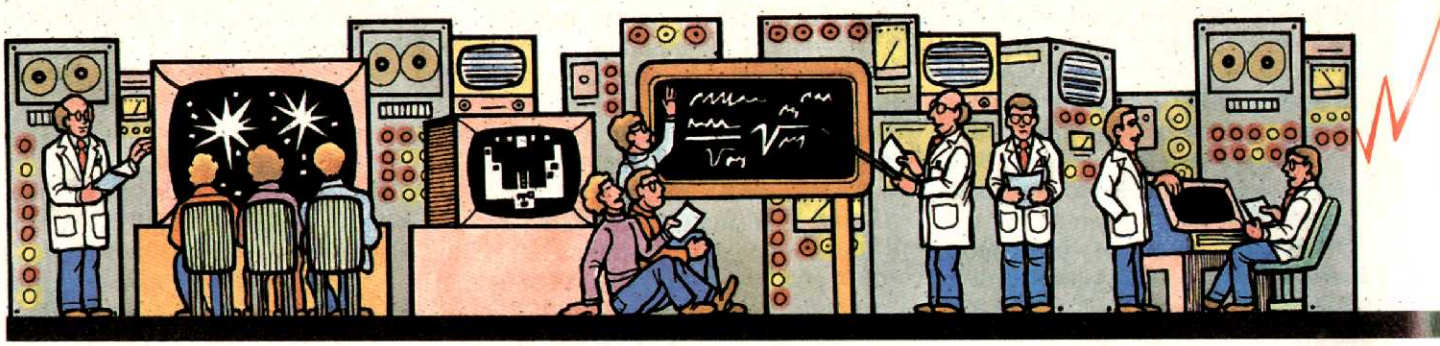


Getting into Direct Video

Among the most frequently asked questions of **EG** editors concerns the issue of home videogame picture resolution compared to that of arcade machines. This month's "Test Lab," not only addresses these queries, but will actually tell you how to do something to improve the on-screen image.

Arcade games owe their vastly superior picture clarity and sharpness to a number of factors. They operate at higher RAM levels than do home machines. A typical arcade game uses up to 48K of RAM. By comparison, the Atari VCS or Odyssey² operates with less than 1K of RAM. It is from RAM that the arcade machines derive both their graphics and play-action. Most use a combination of RAM and ROM which is far in excess of that generally available to the home gamer.

Both Atari VCS and Odyssey² generate their graphics and play-action almost exclusively from their ROM cartridges. This leaves Atari with no more than 8K available, Odyssey² with 4K.

The more advanced and expensive home systems like the Astrocade (formally the Astrovision Professional Arcade, and before that the Bally Arcade) and Intellivision utilize a minimum RAM/ROM configuration that allows at least 4K of RAM memory for on-screen graphics.

Of equal importance, arcade machines generate video signals (from RAM) in a form called RGB. This designation stands for *R*ed, *G*reen, *B*lue and means that each of the primary color television colors is injected directly and separately to the corresponding electron guns of their picture tubes.

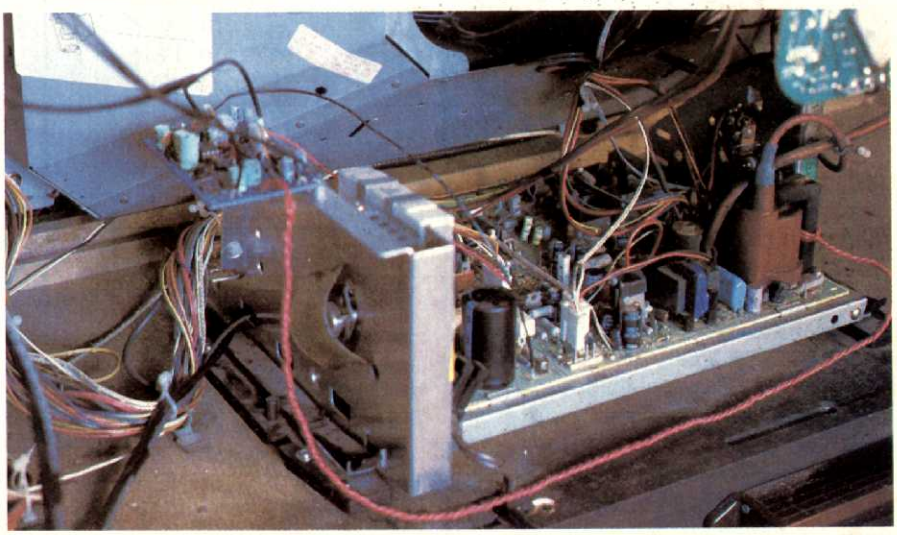
Home videogames and computers, VCRs and videodisc players, however, generate a very low power television signal which, while necessary for most TVs to operate from, (they cannot accept RGB) is the poorest quality form of video signal there is.

To oversimplify the point, a color TV signal is composed of, among other things, RGB (chroma) information, audio, synchronization signals and a carrier wave (radio frequency) that makes its transmission possible.

With videogames, VCRs, etc. signals enter the TV set (through the tuner) on channels 2, 3, 4 and so on, and go through a process called demodulation which removes the carrier frequency and provides the television with a pure video signal. This process, used by all television sets, incurs a loss of picture resolution and an increase in background noise levels when compared to the maximum signal performance theoretically possible.

In addition, all color television picture tubes with the exception of those found in high-priced ($5,000.00+) studio monitors and possibly some arcade machines, contain a device called a shadow mask. Sony Trinitron picture tubes have a similar device called a shadow mask. Sony Trinitron picture tubes have a similar device called an aperture grill. The shadow mask helps focus the beams from the electron gun (located at the extreme rear of the picture tube) onto the face of the tube. The problem is that the mask causes

Direct video can change your screen display from something that looks like the playfield shown above left to the crystal clarity of the one above right. Below is the primary installation of the unit.



By HENRY B. COHEN

TEST LAB

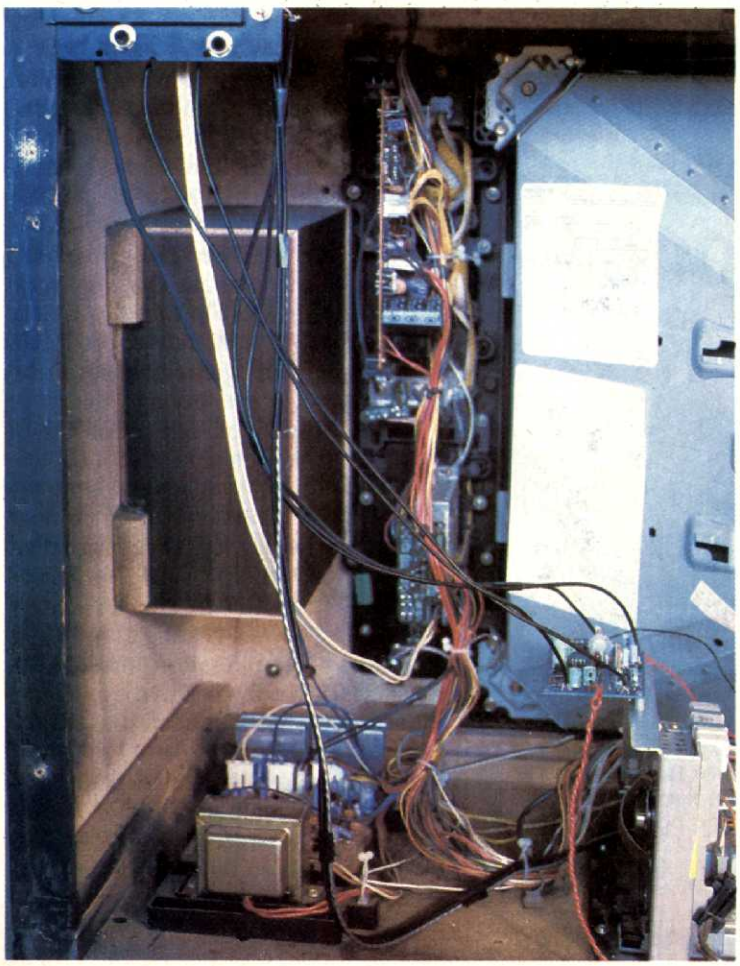
some loss of picture sharpness compared to that of a studio monitor tube or black and white picture tube. (The latter doesn't need or contain a shadow mask.) In fact, this is the main reason black and white monitors are used for business computer readouts. Sharpness and minimal eye strain, in this application, are absolutely necessary.

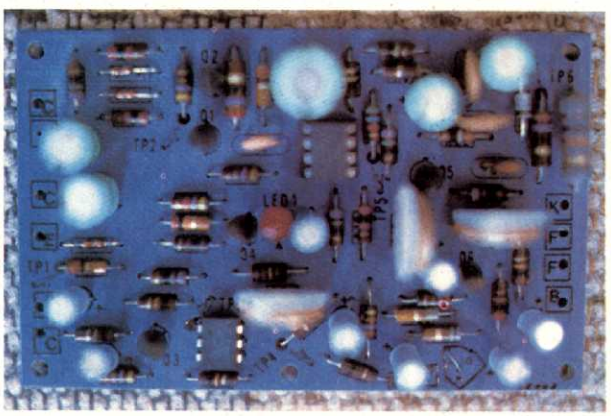
Lastly, color television uses a part of its available bandwidth (the frequency range alloted to a single channel before it bleeds into another channel) to provide color information. Black and white television uses this space for additional picture sharpness information. There are other factors, mostly concerned with bandwidth, which also affect the picture you see, but much of this information is too technical to matter here. Suffice to say that pictures you get are remarkable, given all of the elements working against them.

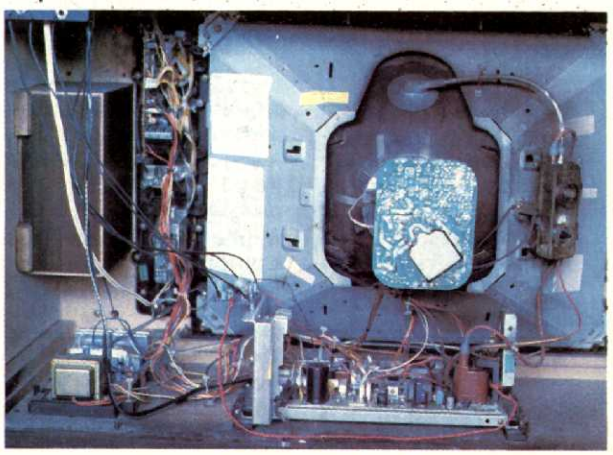
A major step towards improving home television picture quality is to utilize direct, not modulated/demodulated, video. The problem: Very few consumer television sets contain a direct (more properly called composite) video input. And when you find one that does have such an input, only a few higher-priced home computers (and the economical Commodore VIC-20) can use them. Fortunately all VCRs and videodisc players can provide direct video signals, so television manufacturers are building more sets with video inputs to serve this market. As of this writing, none of the "big four" videogame manufacturers have chosen to include a composite video or direct audio output with their products. Nevertheless, wiring such outputs into home videogames should be fairly simple.

Using direct video and audio produces, depending on what you are used to seeing and hearing, a moderately to dramatically improved picture in terms of sharpness and clarity, a far cleaner picture in terms of RF-induced noise and distortion and better sound.

While we would have liked to illus-







The configuration of the video audio input jacks on the VAMP is shown at the far left. Above is a close up of the entire unit. Finally, the photograph below shows how it all looks when it's in place.

TEST LAB

trate these video points with photography, magazine reproduction being what it is, it would be hard to suitably demonstrate the subtle differences seen on the screen. We have opted to use drawings instead.

Radio Frequency (RF) problems show up as anything from light-colored horizontal lines throughout the picture to moire patterns and transient background disturbances. RF interference is the primary reason that a playfield containing lots of solid colors and little action to distract the eye may often look dirty and lack the smoothness of an arcade machine. It is also why white lettering (in particular) tends to bleed rather than retain the crisp, sharp look of computer terminal lettering.

Those fortunate enough to have a color monitor/receiver and a color computer can view a picture that is far superior to what most of us are used to seeing. In fact the clarity is close to equalling arcade standards. Some computers provide RGB outputs, and when these machines are monitored by RGB receivers, the ultimate video picture is obtained.

For many years, conversion products have been available to industry and well-heeled, sophisticated consumers. These units cost about $200, plus an additional $100 or so for installation. In consequence, few consumers bother to modify their sets to accept direct video and audio. Of course in the "old days" of a year or two ago, there were fewer sources of direct video available anyway. Commercially produced monitor/receivers cost a minimum of several hundred dollars more than the standard TV equivalents and tend to contain fewer "bells and whistles" (features) than most of us desire. Even today a true professional studio monitor will set you back a cool $5,000, and that's for a 19-in. screen and no audio capability.

Enter the recently introduced V.A.M.P. DVM-1 television conversion kit. This is a high-quality unit featuring sophisticated circuitry that permits a user to convert a television set into a true monitor/receiver. The DVM-1 features optical isolation between its input and output which prevents any accidental damage to the television's sensitive circuitry. Such an accident might occur if too strong a signal were to be applied to a direct video input without protective circuitry.

The DVM-1 is made to adapt itself to virtually every television in use, but the best thing about the kit is its low price—$65 complete. V.A.M.P. also makes a kit to allow direct video only, no audio, for even less ($35.00) but **EG** didn't test that unit. This is a far cry from the $200 price tag of earlier conversion units and makes owning a color monitor/receiver possible for anyone interested in having one.

The downside is that the unit is only available as a kit and that, for most people, professional installation will be required. If you have no experience building electronic kits and/or you have never worked on a television set before, you shouldn't attempt to build or install this kit yourself.

Any competent TV technician can perform these services in about three hours. For most readers, therefore, the most important step in this conversion process is finding a good, reliable technician to do the job. Given current rates, the cost for this service should run $75-$100. At a total cost of $165.00 for this conversion and capability, we feel that the value derived far outweigh the moderate cost involved.

If you hire a technician (or find a friend to do it), they may also be able to tape your videogame console at the same time for the direct video and audio outputs you will need. (Remember, the game should only be modified if out of warranty, or you will assuredly void the warranty. You may therefore wish to work a package deal with the technician or await our upcoming "Test Lab" on the subject.)

Tapping the videogame is a straightforward operation and requires no special kit; only that two cables and plugs be properly connected to the innards of your game.

If you have some kit-building experience, but only limited TV knowledge, then we recommend that you build the kit yourself and have it installed professionally. If you really know your stuff, then the entire conversion should cost you no more than

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$65, three hours of your time and possibly a phone call or two to V.A.M.P. for help if things get tricky.

Before ordering the kit, however, a few helpful hints are in order. First, try to supply V.A.M.P. with a schematic diagram of your TV set at the time you place your order. This is the circuit diagram of your television and having it is critical to the installation. The engineers at V.A.M.P. will mark your schematic with two Xs at the correct injection points for the video and audio connections. Second, let them know if you are going to modify a console. The instructions and wire lengths supplied with the kit are geared for table models and portables. Extra wire will be sent if the kit is going into a console. In addition, the number of turns you will have to make around the flyback are fewer for the higher voltage transformers found in consoles.

Lastly, you will most likely have to remove trace wiring from your printed circuit boards. This means cutting out small pieces of copper with an exacto knife. Don't let this minor surgery intimidate you. It's done all the time in computer work. The kit will be sent to you ready for construction and installation. There are no extras to buy to complete the project.

It took **EG** about an hour to complete assembly of the kit. The actual modification took considerably longer. This is not unusual or contradictory as we were working on a 26-in. Sony console, and striving for perfection. The extra time was necessary to achieve that goal and we feel was well spent.

From the illustration, you can see that the V.A.M.P. unit is small (about 3 X 4 in.) and, in our installation, it will reside just to the left of the primary video/audio circuit board. The input jacks and receiver/monitor switch have been located just below the factory installed VHF/UHF inputs on the upper left of the cabinet. (Note: The input jacks supplied with the kit are called ¼-in. phone tip female connectors. These were supplied because they are plastic-based and may have to be installed in a "hot" chassis. You, of course, have the option, to use any form of input jack you like. Most semi-professional equipment uses either RCA phone jacks or BNC connectors. So long as you can mount these jacks on a plastic or wood surface, the choice is yours. If they must be mounted on metal, stick to the jack V.A.M.P. supplies.)

Our installation was configured to look as though Sony had supplied it at the factory. This was possible because, in a large console, there is a great deal of room in which to work. Within a portable or table model aesthetics may have to give way to practicalities. Short leads (wiring) are preferred to long cable runs, and there is limited space in which to work.

The instructions supplied with the kit—and they are under revision as we go to press—are just barely adequate to guide a service technician through the installation. Most of the kits are sold to professionals, largely because V.A.M.P. feels the installation is too difficult for the average consumer. We at **EG** agree, but because the product can provide such a meaningful improvement in your TV's performance, we wholeheartedly recommend purchasing and installing it.

Once up and operating, the unit works perfectly. Picture performance was noticeably cleaner when fed through direct video. Audio also improved. While we're touching on the subject of audio, be sure to pay particular attention to the routing of the audio cables. Keep them away from power sources, as they are subject to some hum pickup even though they are shielded.

As mentioned earlier, those who own a computer with video and audio outputs will derive immediate benefits from this modification by way of sharper and considerably cleaner pictures. For black and white televisions, this modification will increase bandwidth to about 8 megahertz, allowing clear clean readings of up to 80 characters of information.

If you own a VCR or videodisc player, you will notice a cleaner picture and if some of your interconnected devices have been causing you crosstalk problems, going to direct video in as many cases as possible will cure or alleviate the problem. This is a particular problem with video systems containing computers.

To order a DVM-1 or for further information before ordering, contact John Soluk at V.A.M.P. Inc., 6753 Selma Avenue, Los Angeles, California 90028. Their telephone number is 213-466-5533.

Lastly we hope that those readers who modify their televisions will let us know of your results.

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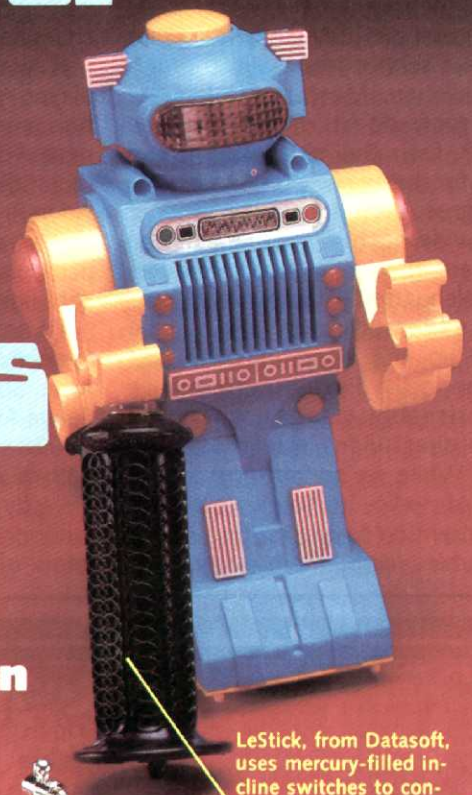
by BILL KUNKEL

Better Control For Your Games

Customized Command Units Spice Up the Action

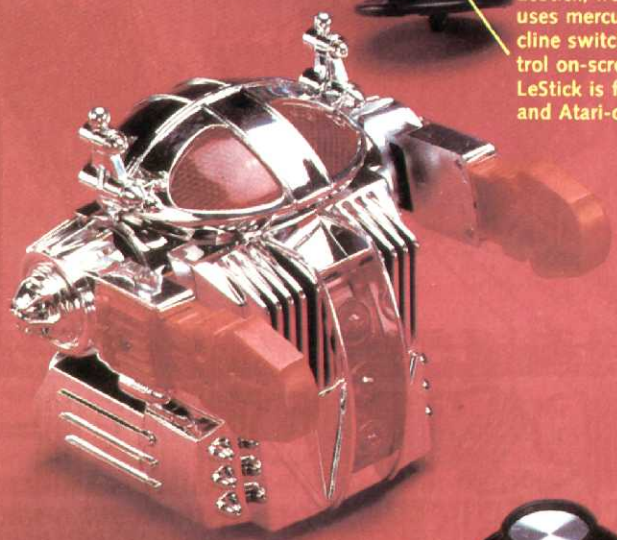
Like the search for a totally honest man, the unreachable high note on a trumpet or a reliable TV repairman, the quest for the perfect videogame controller remains unfulfilled. In spite of the fact that man has never created *anything* that is totally perfect—with the possible exception of pizza—the hardware designers keep coming up with new ways to move those on-screen characters around the playfield during the heat of videogame action.

In fact, the electronic gaming scene is exploding with new, deluxe controllers and adapters of every conceivable stripe. To try and put this deluge of new products in perspective, let's look at the various products on a type-by-



LeStick, from Datasoft, uses mercury-filled incline switches to control on-screen movement. LeStick is free-standing and Atari-compatible.

The Video Command controller, from Zircon, uses the old "Channel F" joystick/paddle controller in a new format compatible with Atari systems.



For the Apple II, Zircon makes available the Alpha Command paddles. The controllers feature a single action-button located to the right of the dial

The Starplex console-controller from Starplex Electronics of Spokane, Wash. carries a hefty price tag and requires a battery, but it features a special "Astro Blast" auto-fire feature.

type basis, starting with the most popular command device of all.

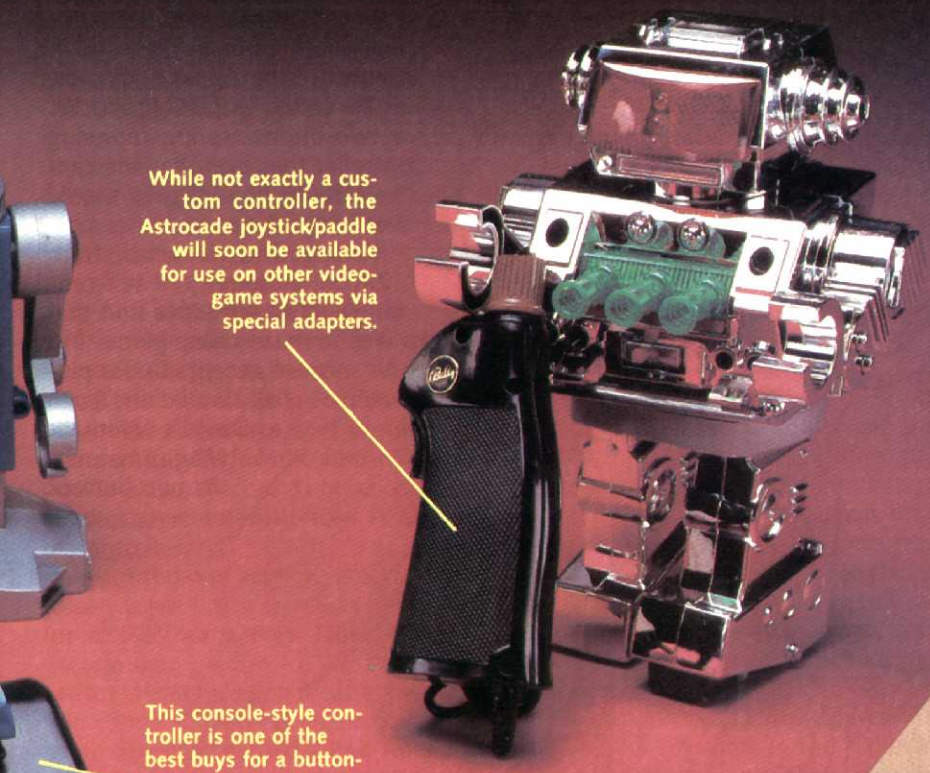
JOYSTICKS

Originally designed as the control instrument for high-speed autos and jet planes, the joystick is the closest the electronic gaming world has come to developing the perfect controller. For sophisticated and diagonal movement in particular, nothing works better.

The Odyssey² joystick is probably the best-contructed and mechanically most sophisticated stick on the market today. Unfortunately, it is also quite expensive and, as it is wired directly into the console, a pain in the butt to replace. It is also too delicate for an intense gamer, and the otherwise well-conceived knob sometimes pops off during heavy play sessions. Still, when it's working, it's the best there is.

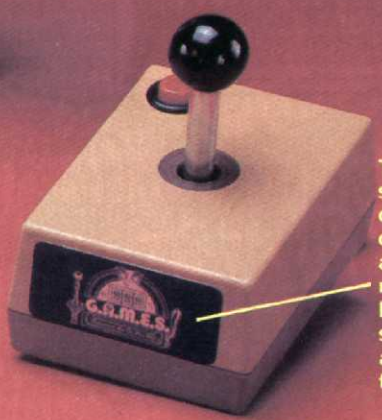
The most popular entry and, surprisingly, one of the very best on the market, is the good old Atari joystick. Cheap to replace and hard to demolish, it has the perfect dimensions for large and small hands alike and a tall stick for easy manipulation. They can also be obtained virtually everywhere.

The Atari stick is so popular (and universal), even a rival company, Commodore, has made it compatible with its hot new home computer, the VIC-20. Most of the controllers discussed in this category, therefore, are Atari-compatible. The Atari's only real flaw is the lack of "play" it provides, which gives the hard-nosed arcader very little actual stick movement. This is known as "stiff" action and is actually preferred by some gamers.



While not exactly a custom controller, the Astrocade joystick/paddle will soon be available for use on other videogame systems via special adapters.

This console-style controller is one of the best buys for a button-actuated, Atari format command console. It's available from the B-C Co. of Melrose, Ma.



This rugged, coin-op style joystick is definitely a man's controller. It's durable, made of sturdy metal with an action button that demands a strong thumb. It is also a bit wide for tiny hands to grip

For the really hot-shot arcader, Screensonics of St. Louis will attach an engraved name plate onto your favorite controller for $5!

One of the sleekest-looking joysticks around, Zircon's Superstik is a non-centering controller for the Apple II computer.

For those seeking a more durable stick with more play and a big, coin-op style knob on the shaft, the Apex joystick being marketed by G.A.M.E.S. should fill the bill. Encased in a tough metal body, this joystick will give even the ruggedest player all the give desired. It has only two drawbacks. One is that the firing button is a bit too tight and has to be really forced all the way down in order to make contact. But the main kink is the thickness of the base itself. It's fine for a large-handed man, but it can prove discouragingly cumbersome to women and children with daintier mitts.

For games that don't involve an "action" button at all, however, such as the maze-chase contests, there's Video Command from Zircon, the folks who bought out Fairchild's old Channel F system. This is, in fact, the same Fairchild joystick used with Channel F, re-wired to be compatible with the VCS. Its main drawback, however, is that it lacks a button and the stickhead itself must be plunged downward to engage that function. The Zircon unit is excellent, however, for games of pure movement.

The first of the customized joysticks to reach the market was Datasoft's noble failure, LeStick. Using mercury-filled incline switches to detect movement, this otherwise attractive gungrip controller with top-mounted action button was much too sensitive for use in all but a select few games. Datasoft has since improved on the original, but, LeStick still has too many bugs in it.

Of the non-Atari joysticks, the most important are the Apple II and TRS-80 Color Computer versions. Even the best of these leaves something to be desired, frequently self-centering. The best joysticks always return to a neutral position when not being moved by the player. Otherwise, the sticks flop around like dead fish, making delicate control impossible. The Color Computer stick is the major offender here, a springless loser that has virtually nothing to recommend it. The best of the Apple II joysticks **EG** tested was TG Product's, a two-button, spring-centering controller that even has the capacity to be realigned should wear edge it out of center positioning. The Videostick, from Zircon, although not self-centering, is an attractive unit that works well in maze-chase games but is not acceptable for pinball simulations (such as **David's Midnight Magic**) because its two buttons are located one above the other on the side of the device.

PADDLES

Most paddle controls are simply volume switches that cause the on-screen element to move either vertically or horizontally. The people's choice, the Atari paddle, easily tops the rest of the competition, though it does tend to waver and stick when handled by rough arcaders. Again, as with its joysticks, Atari has made the paddles cheap and easy to replace.

Alpha Command, from Zircon, and TG's paddles for the Apple II rated highest of those tested. The main difficulty with the Apple, however, is that the controllers must be connected internally. It's recomm-

BETTER CONTROL FOR YOUR GAMES

ended, therefore, that gamers pick up an external terminal, such as the E-Z Port or Sirius Software's Joyport. Remember, all Apple paddles utilize 20-pin connecters—and when there are that many pins around, one is bound to snap sooner or later.

KEYPAD

Keypad controllers, such as Atari's for the VCS, are used solely for alpha-numeric games such as **Hangman** and the **Mastermind**-types of programs—sometimes even when the joystick would have done just as well. Computers generally don't need such units, of course, because they come equipped with full keyboards.

KEYPAD/DISC

The only system to employ this configuration is the Intellivision. While the mylar overlays do help reduce confusion regarding the varied number of commands, it doesn't improve the novice player's score to be constantly looking back and forth from TV screen to controller.

As for the disc portion, this is a near total-washout as a direction controller for fast-action games. Not only is it occasionally painful to the thumb, it causes inexact play on arcade-style action contests. Don't despair, however, as an inventor named Gene Radding has already developed a workable slide-on/slide-off device that turns the deadly disc into a standard joystick for that type of contest.

KEYPAD/JOYSTICK

This is the controller Atari plans to use with the Supergame. It was not available for testing at press time, but a prototype shown six months ago looked promising.

CONTROL CONSOLES

For those arcade-bred gamers who prefer a console of buttons to a joystick *or* paddle, especially on games such as **Asteroids,** there are now two perfectly acceptable controller boards available. The Starplex is somewhat more gaudy-looking, but it does have a unique feature—astro-firing. This works best in continuous-fire games such as *Asteroids,* where it *really* performs well.

The BC Inc.-built Blaster console is sturdier and simpler in design with buttons laid out in the same manner. There are two left/right direction buttons on the left, thrust/fire on the right, and a hyperspace command at the bottom. For universal use, the fire button might be better placed at the lower position, but for limited use, these are both recommended. The BC control console, in fact, rates as a genuine **EG** "best buy" at under $30.

TRAC-BALL

Many feel the trac-ball, a round, free-spinning sphere used in games such as **Centipede,** is the ideal motion control. So far, no company has produced one for home use. Wico, a Midwestern manufacturer of coin-op controls, is now entering the home market and may be the first to bring such a controller into America's living-rooms. Datasoft and Atari are also in the race to develop a reasonably-priced but durable trac-ball.

HYBRIDS

Some of the best controllers are the hybrids, those which combine the functions of a few different command units. The best available at press time was Astrocade's well-built gun-grip, trigger, and top-mounted joystick/paddle combo. The dial spins freely, as it would in paddle games, while also having the ability to move on a small shaft in joystick-fashion.

Not yet available for testing, but soon to be released is the Coleco-Vision controller, which combines keypad, joystick and dial controls in a single unit.

ERRATA

Never one to be short of a good idea, Cliff Blake of Screensonics in St. Louis, has several controller peripherals that merit inclusion here. First, there's the monogrammed controller. Send Cliff your favorite controller of whatever make or model, and for $5. he'll send it back with a brass plate bearing your name.

Cliff's masterstroke is his VCS-adaptable extension cord, which is exactly what it sounds like. This is something gamers have needed for a long time, and only Screensonics makes it at the present time.

What's coming up next? How about adapters that will allow you to use, for example, an Astrocade controller on a VCS or Intellivision (Sears-type only, because of its external connection). The volcano has erupted and, who knows, when the ashes are all swept away, we may just find that perfect controller after all. EG

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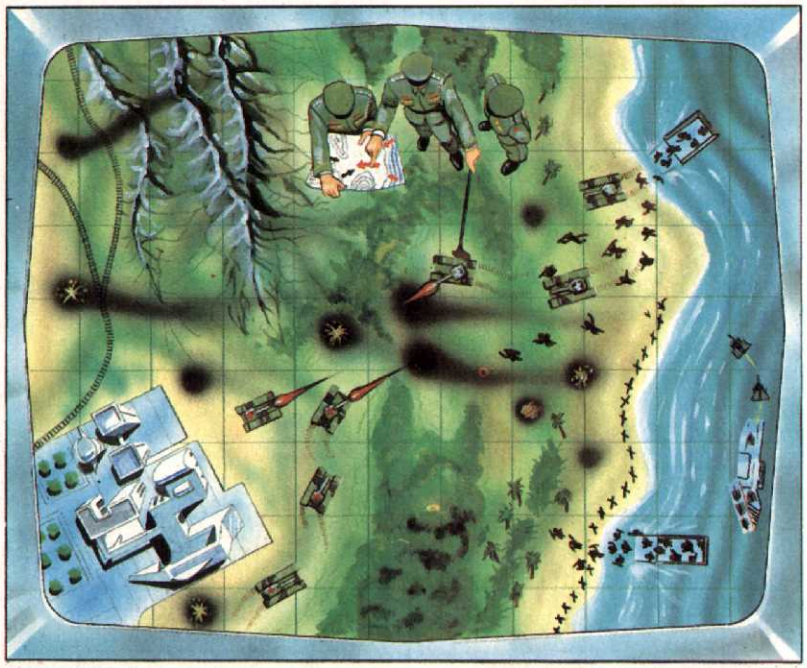


SESSION

Gobbling Points with Pac-Man

By FRANK TETRO JR.

PAC-MAN

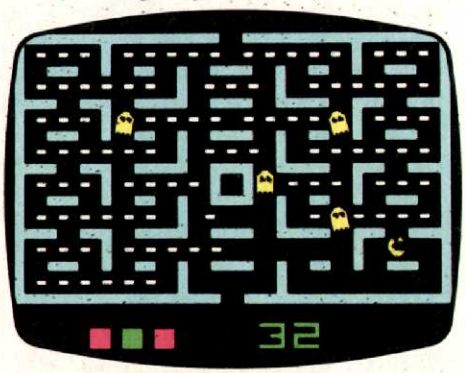
Atari/Atari VCS

Atari's VCS **Pac-Man** is the first official home version of the popular coin-op game in which you play the roll of a gobbler who must consume all the wafers on screen while being chased through a maze by a gang of four goblins. The only time the gobbler can devour goblins is after energizing himself with one of the power dots located in each of the field's four corners—though this empowered state is just temporary.

Gobblers can elude their pursuers by moving through a scrolling tunnel that takes you back and forth from the top of the screen to the bottom. Clear a board and you're awarded an extra gobbler (maximum of nine) and the battle begins anew, only this time the goblins are even more aggressive.

The obvious strategy here is simple: keep on the move and avoid corners that no longer possess energizing dots as the goblins will invariably converge on you from several directions.

Before gulping down a power pill, hang around a while until at least a couple of goblins are on your trail so that the pill can be scarfed up along with a batch of meanies. Remember, goblins double in value from 20 to 160 points, depending on how many are caught during each "bonus phase" (consuming a power wafer turns the goblins blue to visually indicate their vulnerable status. They will begin to blink, however, as the energizing effect begins to wear off, so watch your step.)



PAC-MAN

After a goblin has been gobbled, his eyes will float back to the central pen, where he will be rejuvenated. Avoid lounging about near the corral for this reason, as you never know when a healthy goblin will decide to make his appearance.

In the arcade version, the escape tunnel previously mentioned gives the player an excellent advantage as the gobbler scrolls through this exit twice as fast as his pursuers. This also holds true in the home version, except the goblins here are much more reluctant to follow a gobbler through the tunnel. Instead, it is more in keeping with their style to travel to the other side of the playfield and head you off at the pass, so to speak. It also takes considerably longer to actually pass through this escape tunnel, giving the goblins a greater edge than their coin-op cousins. Use the tunnel *only* in case of emergency.

Attempt to clear the central part of the maze first as there are no power pills here and this portion of the field is the greatest challenge. Leaving the middle for last also leaves your gobbler without any means of consuming meanies. Remember that gulping a power wafer not only makes the goblins vulnerable, it scares the heck out of 'em, and they will instinctively flee. No power pills, though, and they'll gang up in the center of the maze and wait for dinner.

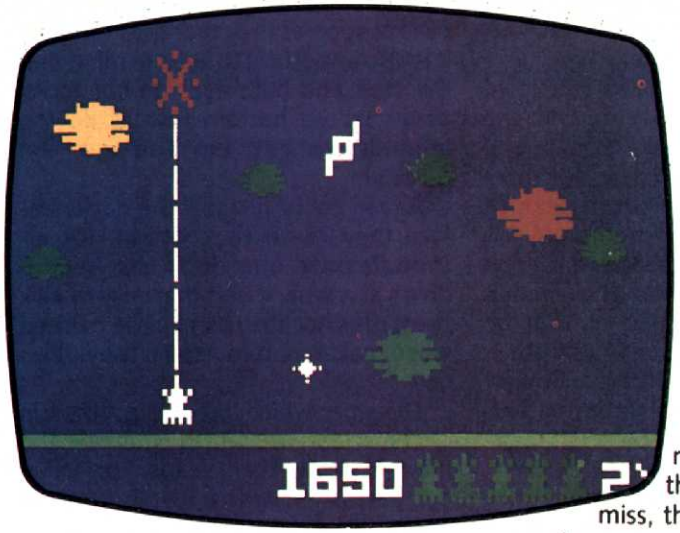
When you're down to your last gobbler, play a more conservative round or two, simply clearing the maze and ignoring the goblins even after a repast of power pills. You won't score a lot of bonus points, but you will earn a few bonus lives, after which you can be more devil-may-care in your style of play.

ASTROSMASH

Mattel Electronics/Intellivision

In **Astrosmash** it's up to you to save your planet from an enemy barrage of tumbling rocks, bombs, spinners, UFO's and guided missiles. The higher you score, the faster the assault becomes until the game ends with the loss of all laser cannons.

Using the control disc, the cannon is moved horizontally across the bottom of the playfield, with side-mounted



action buttons used for firing, unless you opt for the auto-fire mode, in which the computer launches three salvos per second, leaving you to simply steer (this is highly recommended as manual firing is quite a strain on the old game thumb).

Missing a rock reduces your score slightly and missing spinners destroys your ship. There's also a guided missile that will periodically appear and home in on your ship. This is where button 3 on the keypad—Hyperspace—comes in, that ever-faithful control that, it is hoped, will transport you to a safer location.

Once you've hit 3X, a UFO will begin to appear and will fire on you. The sole solution to this nuisance is to get underneath and blast it to atoms. Bonus bases are awarded for every 1,000 points and the speed, or "X" value will increase at 1,000, 5,000, 20,000 50,000 and 100,000.

Hitting a large space rock splits it into two, smaller rocks worth twice the value of the original.

Strategy here is simple. Use the auto-fire option and keep on the move. Hit what you can and remember the more you miss, the lower your score drops.

The instant you see the whites of a spinner's eyes—fire!! Do not give him

an opportunity to land or he will destroy you, regardless of your location. If a rock is very low, do not attempt to destroy it because even though you may hit it before it hits you, the shrapnel from the blow-up will likely do you in anyway.

If a UFO appears, do *not* head for a corner or the mystery ship will pin you down and destroy you. Instead, move directly underneath the UFO and fire away. Also, try not to hit a large rock if it is either too close or falling too fast to eliminate the two smaller chunks as well. Missing a single, large rock is always better than missing two smaller ones as it will deduct twice as many points from your score.

Once you attain true mastery, a session of *Astrosmash* can take quite a while, so don't forget about the "time-out" sequence (hit both yellow keys on the keypad at the same time) because even the most smashing of players can use a rest sometime . . .

SHOOTING GALLERY

Analog/Atari 800/16K cassette/32K disc

Shooting Gallery is a target contest quite similar to Sega's coin-op game **Carnival** in which gamers control a horizontally-moving, vertically firing pistol and fire at a cast of clay bunnies, bears, ducks, pipes, et al.

Play begins with a short supply of bullets, each shot indicated at the lower left of the screen. Run out of ammo and the game ends, but there are ways to gain bonus bullets. Shoot a star and you've copped an extra ten shots, while hitting a bulls-eye is good for a quintet of bullets. The animals move in a serpentine manner from the top row to the middle and, ultimately, the bottom column. Hitting the target at the top gains 60 points; the middle is worth 40 and anything hit on the bottom line counts for 20.

Ducks are a problem. If a duck makes it all the way to the bottom row, he will begin quacking and make a beeline for your bullets which, for some reason, are his favorite snack. There is also a constantly rotating cirlce of clay pipes which must also be polished off before the player gets his bonus shots at the rambling bear. The big animal lumbers on screen and changes direction (while picking up speed) with each hit. You have unlimited firepower regarding the bear.

The most important thing to watch is the number of bullets you have left. Attempt to hit all the stars and bulls-eyes as soon as they rear their insignia. It is also important to keep in mind that the stars and bulls-eyes do *not* travel down to the bottom row as do the animals, so get 'em and get 'em quickly!

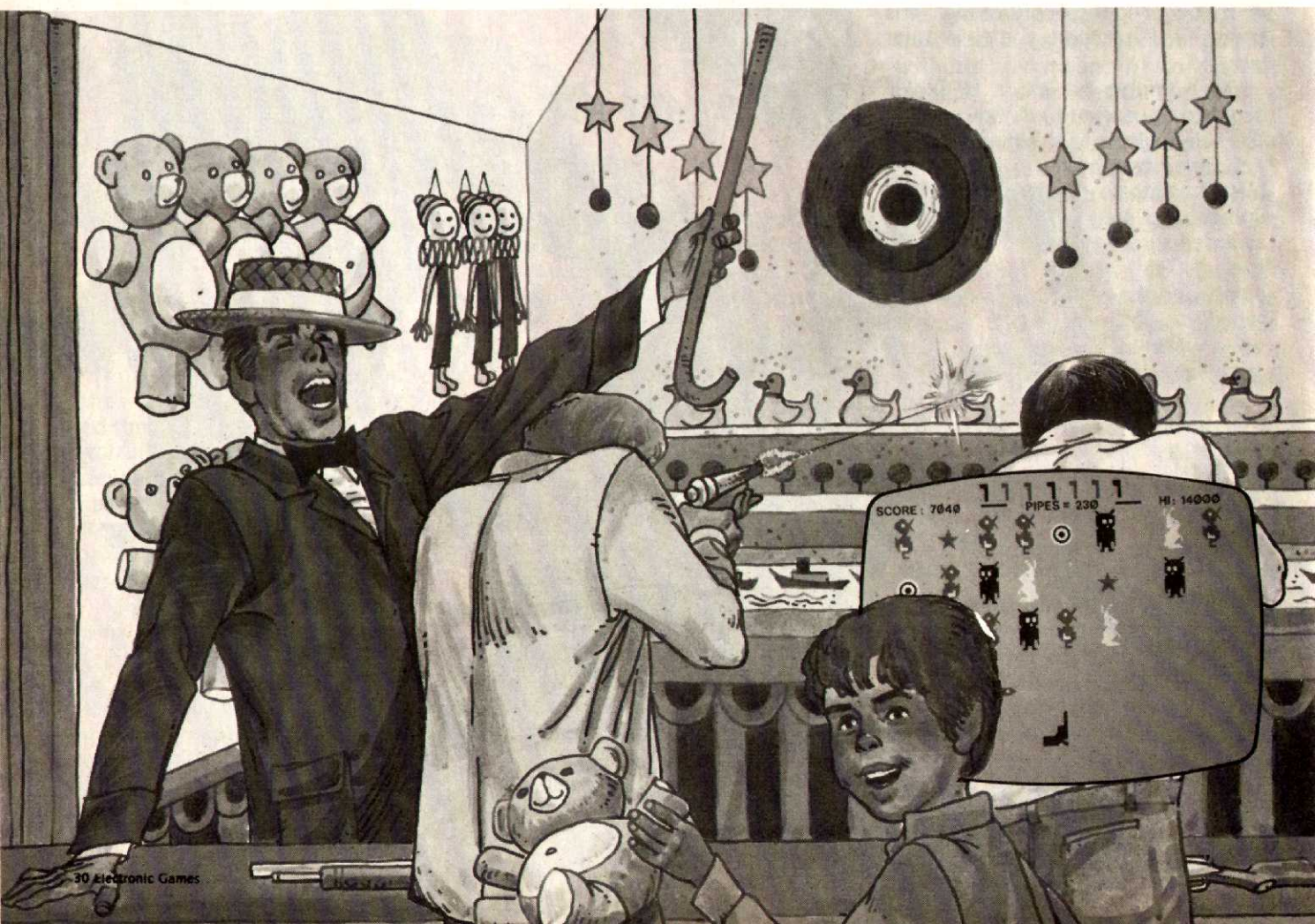
Again, try to pick off the ducks before they reach the bottom, for although only one duck can swoop down at a time, it isn't that easy to pick them off since they can not be harmed while making a turn, which they often do.

The pipes which travel across the top of the screen are worth whatever the number below them reads. This value decreases by 10 with each hit, until you reach the minimum number of 50 points.

Since the second screen is much more challenging than the first, don't be in a big hurry to clear the initial playfield.

As to the bonus bear, wait for him to reach mid-screen before firing your first shot, giving you leeway on both sides. After picking up a few 50 point bonuses by plugging the beast, his speed will *really* pick up.

Okay, then, pard? Load 'em up and shoot 'em up!



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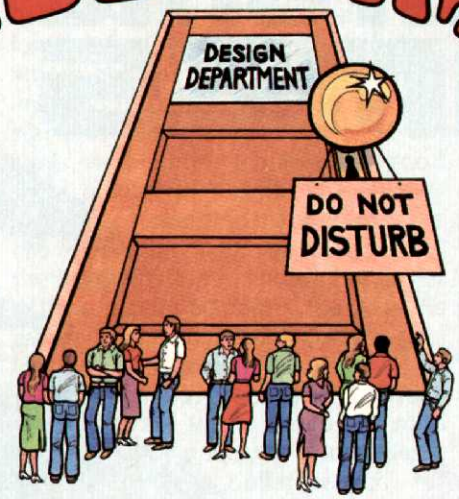


From Computer-Hater to Game Designer

By STEVE DAVIDSON

Is there really an electronic game designer who doesn't thrill to the feel of a joystick controller in the hand? "I do not play computer or arcade games very much," admits David Mullich, the 23-year-old director of software development for Edu-Ware and creator of that company's fascinatingly offbeat line of game programs. Actually, Mullich is not unique in this regard, and there is even some precedent among designers of non-electronic games. James Dunnigan, surely the greatest designer of adult military boardgames, is but one game inventor who publicly states that his work occupies him so fully that he seldom plays games for recreation.

When he has free time — an increasingly rare occurrence, Mullich says — the California resident enjoys a brisk game of **Dungeons & Dragons.** He used to play a modified version of the celebrated role-playing game with a group of 12 people about once a week, but recently finds himself spending his hours at the computer terminal instead of bashing orcs.

This interest in role-playing won't surprise those familiar with Mullich's Edu-Ware output. The subtle inter-play of human (and machine) personalities is often an important feature of his titles, which include **The Prisoner, Space II** and **Empire I.** "I see the computer as a creative tool," Mullich explains. "I'm excited about the possibilities it opens up for real-time storytelling, and for interaction between the author and audience."

Although the videogame trailblazer has a Bachelor of Science degree in Computer Science from California State University at Northridge, his interest in the world of disk drives and CPUs only flowered during his second year in college. Prior to that, his career goal was to be "an editor, artist or something in the communication field." His life took a decisive turn when, as a sophomore at Cal State, he got a summer job in a local computer store. Things went so well that the future designer took a full-time job as a shipping room employee for the retailer.

"Because of my previous career choices," says Mullich, "my interest in computers has always been in the area of creativity. I hated computers in high school. I had trouble slowing down my thoughts and putting them in sequential order." He blames this high level of frustration on the relatively primitive technology available to pioneering computerists during his high school days.

By the time he began working in the computer store, however, scientific breakthroughs had radically altered the situation. "I bought my first Apple on my 20th birthday," Mullich recalls with evident fondness. Clearly, his computer-phobia had become a thing of the past.

He met Sherwin Steffin, owner of Edu-Ware, through the computer store. Clerk and customer got along famously, and Mullich began working with the software vendor as a freelancer in 1979.

Appropriately enough in view of his enjoyment of *Dungeons & Dragons*, Mullich's first efforts for Edu-Ware involved producing a couple of scenarios for **Space II**, a science fiction role-playing program. After turning out the Psychedelia and Shaman adventures, the neophyte author tackled a couple of pretty unorthodox subjects: the oil crisis (Windfall) and programming broadcast video (Network). The latter is particularly memorable as the only electronic game that allows participants to get a taste of what it's like to be a Fred Silverman and plan a TV network schedule to out-fox the other networks and cop the highest ratings.

After seeing reruns of the classic Patrick McGoohan limited-length series on PBS during the summer of 1980, Mullich began work on his most famous computer program to date, *The Prisoner.*

"It was never meant to be a straight adaptation of the series," insists its creator. "I used aspects of the show, but the real idea was to encourage divergent thinking among the players." Therefore, the ticket to building up the running — but never-seen — score in *The Prisoner* is to do the unexpected. "It was meant to be as diffe-

DAVID MULLICH

rent from other games as possible," he adds. Mullich succeeded very well. The active opposition to the player provided by the computer, the ever-changing rules and the simple yet effective graphics set this game apart from just about everything else on the market.

The Prisoner, Mullich confides, is also something of a satire of some of the games available a couple of years back which David thought were less than inspiring. One target was **The Gauntlet** from the now-defunct Programma International. In *The Prisoner,* Professor Gauntlet is one of the warders of the Island, charged with breaking down the player's resolve to keep his reasons for resigning from his secret service post from the captors.

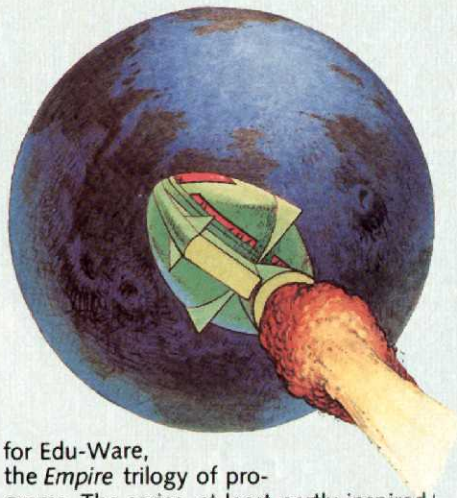
Although the visuals in *The Prisoner* scarcely raise an eyebrow these days, they were a welcome change from text-only adventures when the title made its debut in 1980. "We were told that text wasn't enough," recalls Mullich, "so although we used the Apple text page, we added some graphics to keep players from getting bored by looking at the screen."

Despite the handicap of humdrum packaging, *The Prisoner* has gradually gained quite a large following. It's one of the few entertainment programs that is even more popular today than it was two years ago. Even so, Edu-Ware doesn't intend to let its sales star get too long in the tooth. Under Mullich's direction, a re-design and general upgrade is currently underway on *The Prisoner.* When a facelift is complete, the re-do will result in a game that has all of the original's strongpoints while more closely approaching today's state-of-the-art quality standards for computer software.

Among the changes planned for the game are:

* A larger Island. There will be more possible situations in which the prisoner can become involved.
* Better graphics. High-resolution visuals will enhance the total experience of the game. The idea will be to make *The Prisoner* look at least as visually appealing as Mullich's more recent **Empire.**
* Changes in some of the less satisfactory encounters. For instance, the section of the game in which the player is made to participate in a re-enactment of the famous "shock therapy" experiment will be scrapped. (That's the one in which the subject is given a dial or switch that will cause a shock to be administered to another person undergoing questioning. The subject is encouraged to apply steadily higher levels of electricity to force the person to answer the questions. The idea is to see how much of a shock the subject will administer to please the authority figures despite the fact that the person receiving the jolts is in evident pain.)

Mullich is also venturing back into the world of science fiction with his latest work for Edu-Ware, the *Empire* trilogy of programs. The series, at least partly inspired by the novels of Frank Herbert ("Dune") and Robert A. Heinlein ("Starship Troopers"), began with the **World-Builders** and will continue with **Interstellar Sharks** and finally **Armageddon.**



Edu-Ware began the *Empire* project to develop a replacement for **Space,** a role-playing contest that never quite clicked with the public. "This time we wanted something that would reach a wider audience," explains Mullich. "I think *Empire* packs as much mass appeal as anything Edu-Ware has produced, but feedback indicates that it still reaches a fairly select audience."

Mullich believes that **Interstellar Sharks** will show improvement over **World-Builders** in several key areas. The whole game, he says, will be much more cohesive with better-defined elements. The Imperial society that was just coming into being in the first disc of the trilogy will be firmly in place, providing a sweeping, yet consistent backdrop for the outer space adventure. The concluding disc, **Armageddon,** will call upon the player to destroy the star-spanning imperium established in the first section of *Empire.*

These days, Mullich works a little differently than when he first started putting games together. He produces an outline for the game and monitors the work to make sure that everything is consistent, but much of the nitty gritty work is left to his staff of three programmers. This arrangement allows Mullich to put his special stamp of creativity on the programs without bogging him down in a lot of routine programming that others can do just as well.

One of the intellectual leading lights of the design community, Mullich has thought a lot about what, exactly, goes to make a first class computer game.

"First of all," he says, "a game should have a point. I design games because I want to explore an idea." Another thing Mullich stresses is research. "When I did the **Shaman** scenario for *Space,* I read anthropology books, and when I was creating **Network,** I studied volumes on broadcasting."

Playability is the third crucial element, though Mullich concedes that his personal taste runs more to the esoteric side of gaming. "I prefer games of discovery in which the players largely set their own goals." Owing to the desires of the majority of gamers, Mullich states that he is "getting more traditional" with his most recent programs.

Although it is unlikely that Mullich's games will ever attain the tremendous mass popularity of titles like **Raster Blaster, Apple Panic** or **Star Raiders,** his games are standing the test of time as well as any computer games ever invented. His unorthodox approach to electronic gaming is pushing back design frontiers while providing those who enjoy a "heavy think" game as a nice change from the usual arcade-style shoot-'em-ups many hours of enjoyable play.

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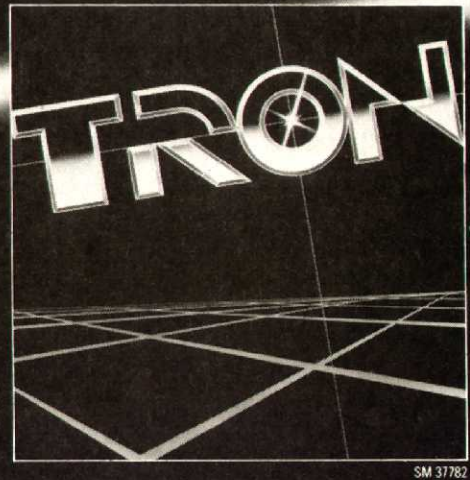

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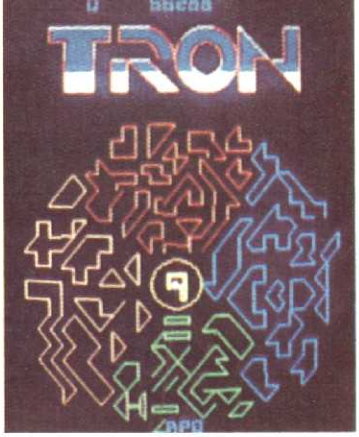
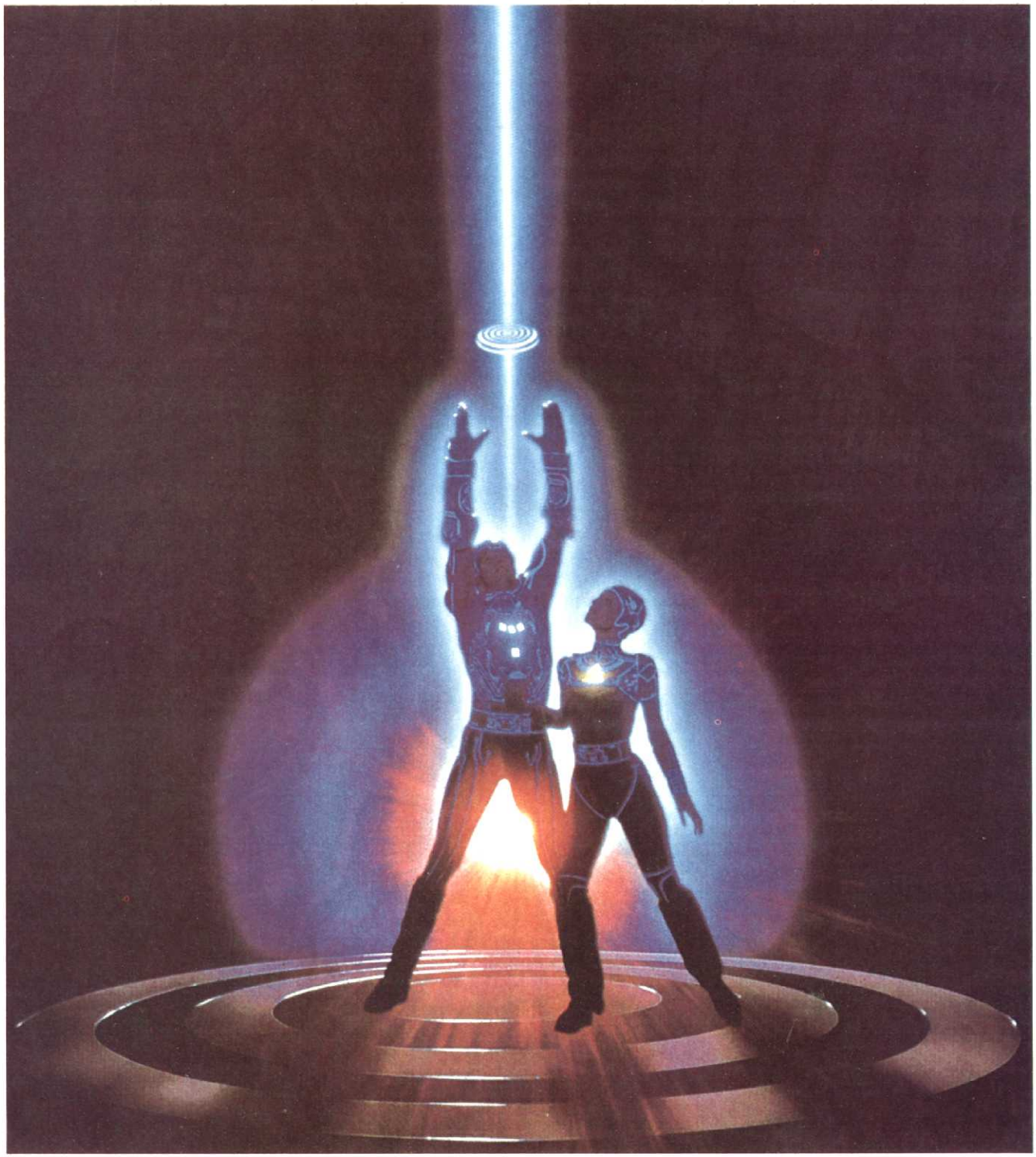


POP CULTURE MEETS ELECTRONIC GAMING



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Movie Stars, Superheroes Go Arcading!

by THE EDITORS OF
ELECTRONIC GAMES

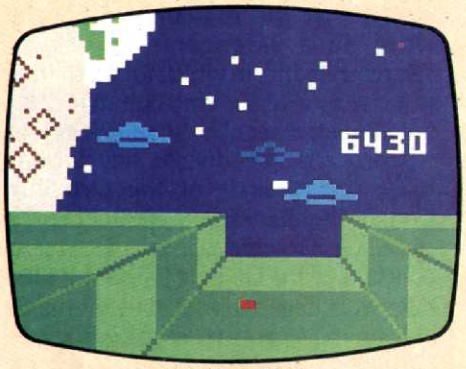
Those who find names for such things call it "serendipity"—the happy accident of two mutually-supportive events occurring simultaneously. For the worlds of electronic gaming and popular culture, the moment of serendipity came in the summer of 1978. As legions of moviegoers strutted from theaters after experiencing the thrills and excitement of a new film called "Star Wars", they were as ready as any people ever were to blast nasty space villains into atoms. At just that moment, a then-unknown Japanese game company called Taito was working with the U.S. coin-op giant, Midway, to allow the public to do just that.

The Japanese videogame visionaries had constructed a groundbreaking coin-op called **Space Invaders.** After taking the Land of the Rising Sun by storm, **Pac-Man** was rapidly moving into arcades, taverns, candy stores and bowling alleys in the form of Midway's Americanized version. Suddenly the booming science fiction craze had a new focus, and an interactive one at that, through which everyman could take a turn at playing Luke Skywalker or Han Solo. It was then that these two expressions of what is loosely termed "pop culture"—that is, the sort of thing that snobs turn their noses up at but which everyone else loves—fused into a single, symbiotic organism, feeding off each other's energies to a greater and greater degree.

Almost instantaneously, every game player on the planet could recognize the movie— and TV-generated icons as familiar visual objects. A circle and two lines became a tie-tighter. A cigar and a pair of flattened discs became "Star Trek's" Enterprise. As the technology advanced, graphic designers refined videogame visuals into even closer alignment with film-generated imagery. A good example is the enemy spacecraft in Intellivision's **Space Battle** which are incredibly accurate representations of "Battlestar Galactica's" Cylon Raiders.

Today, scenes from familiar SF films are appearing in videogame form with astonishing regularity. The "trench" sequence from "Star Wars", in which Luke and a handful of rebels seek out the Death Star's single vulnerable point, has been duplicated numerous times, from Midway's **Space Encounters** to Intellivision's **Star Strike.**

The crossovers of today, however, are more tightly controlled and regulated than they were in the beginning. Electronic gaming is a big business, and if sequences from popular films are going to be used, they must be licensed.



STAR STRIKE

Parker Brothers has already inked an agreement with George Lucas, creator of the "Star Wars" films. Its first release will be a recreation of the battle between snow speeders and the At-Ats entitled, of course, **The Empire Strikes Back.** Parker Brothers has already picked up the rights for a game based on the next installment of the Skywalker saga, **Revenge of the Jedi.**

The publisher of *Monopoly* has, in fact, been one of the heaviest bidders in the race to snatch up popular movies for videogame format. "Jaws", the unfriendly shark with the problem overbite, will inspire a VCS-compatible cartridge of the same name while Ian Fleming's superspy James Bond will have his own **.007** videogame.

Films are not the only medium from which today's electronic game designers draw their inspiration, however. Ever since Atari introduced the brilliant **Superman** cartridge for its VCS, comic book fans have been licking their chops in anticipation of further translations. Spiderman, perhaps the most perfectly adaptable videogame superhero was also purchased by Parker during its spending spree. Able to swing across a horizontally-scrolling cityscape by means of his webshoot-

ers, Spiderman has nearly endless possibilities for videogame adventures.

Sometimes, successful properties dance from one medium to another so quickly, it becomes difficult to tell in which direction the inspiration actually flows. In a sequel to its groundbreaking original, Atari's **Superman II** will pit the Man of Steel against the trio of Kryptonian escapees from the phantom zone: Zod, Ursa and Nod. Superman must first dispatch the superpowered enemies with deadly kryptonite before returning them to the phantom zone. It has even been rumored that the Atarians are hard at work on a videogame version of "Superman III", in which Richard Pryor will star as a villain who commands an arcade-like arsenal of super-weapons.

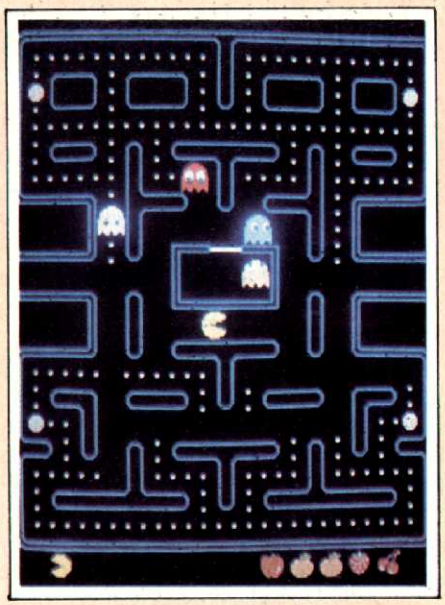
Astrocade, meanwhile, has decided to re-tool **Quest for the Orb** into **Conan the Barbarian,** based on the Robert E. Howard books, the Marvel comics *and* the Dino de Laurentis' film! Whew. In a scenario set in the primitive Hyborian Age, the mighty-thewed barbarian must take on the awesomely powerful wizard, Thulsa Doom, while in search of secret treasure.

One of last summer's biggest hits—as both a film and a Marvel-created comic—was the Lucas-Spielberg creation, "Raiders of the Lost Ark". So anxious was Atari to get this hot title into its 1982 catalog that Atari bounced its promising air combat contest, **Foxbat,** into the following year's schedule.

Then, of course, there are the toys. Astrocade's **G.I. Joe** is based both on the well-known Hasbro "action figure" and the newly-created Marvel comic book. Coleco, meanwhile, is hard at work on a triple-threat videogame (VCS, Intellivision and ColecoVision) involving the famous Smurfs, the little blue creatures who come in every form imaginable, from musician to weight-lifter.

The single hottest character in the pop culture world today, however, wasn't generated by either films or comics but by videogames themselves. The *Pac-Man* gobbler will not only be available as a stuffed toy from Knickerbocker, but will star in his own Saturday morning cartoon show and maybe even a feature film! DC comics, meanwhile, is said to be exploring the possibility of creating a comic book based on the gobbler's gallavanting life-style.

Pac-Man is even smashing records in the world of records. Buckner & Garcia's single, "Pac-Man Fever", shot up the charts and eventually led to an entire album of arcade-based rockers.



MIDWAY PAC-MAN

Actually, videogames were on the minds of rock and rollers even before the "fever" broke. The first Pretenders lp features a number called "Space Invaders"—complete with the coin-op's famous sound effects. The otherwise little-known group Mi-Sex recorded an interesting number called "Computer Games" soon after. And many rock guitarists and keyboard players are using the sounds of arcade to add drive to otherwise non-gaming songs.

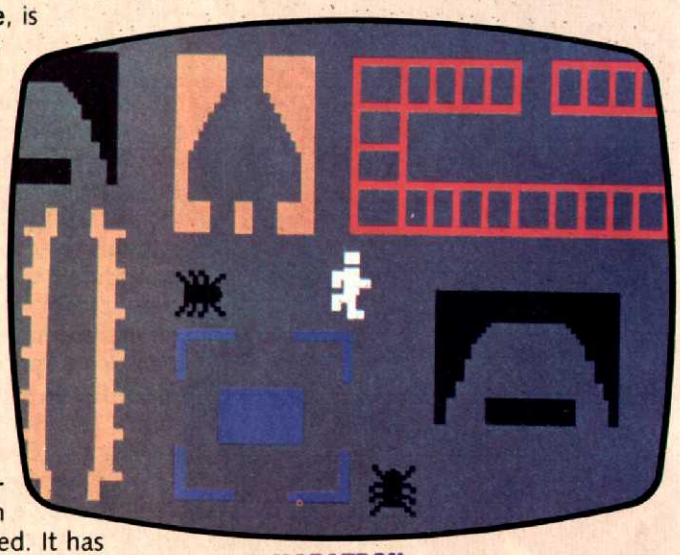
As time goes on, of course, the relationship among these various forms of pop culture grows stronger and stronger. Atari and DC Comics, both owned by Warner Communications, are working hard toward integrating comics and videogames. As a preview of the near future, Atari's latest release, **Yars' Revenge**, is packed with its own mini-comic book that acts as an introduction to the game's rules. DC is already laboring on comic book versions of **Defender** and **Berzerk**, two coin-op hits to which Atari holds exclusive home rights. There will also be at least two more game programs in the **Adventure** series for which comics will be created. It has even been hinted that these quests will be sequential. That is, you can't go on to the second until you've solved the puzzle in the first. The comics will contain subtle, but all-important clues to solving the riddles and facing the dangers along the way.

The ultimate fusion of film and videogames may be Walt Disney's **Tron,** in which a young game designer is hurled into the computer world where videogames are reality. Once there, he must face his own creations in a life and death struggle. Although no existing videogame is specifically mentioned, several of the contests in which Flynn, the young computer whiz played by Beau Bridges, must engage in, will look slightly familiar to experienced arcaders.

Tron has already inspired at least five electronic games. Midway is producing a coin-op version of the "deadly discs" sequence, Tomy has done a similar contest in hand-held form while Intellivision has **Deadly Discs** (formerly *Tron I*), **Mazatron** (formerly *Tron II*) and a new entry, **Solar Sailor** all ready to thrust upon an eagerly-awaiting public.

Serendipity has done its magic. Videogames are a vital part of the popular lifestyle of Americans everywhere. As electronic contests continue to make inroads into our existence, they will find expression in all the many and varied forms of what is, literally, the "people's culture". Whether it's a movie based on videogames, videogames based on a movie, or just a pack of *Pac-Man* bubble gum cards it's all a manifestation of electronic entertainment.

And the best, we're certain, is yet to come.



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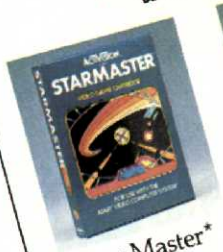

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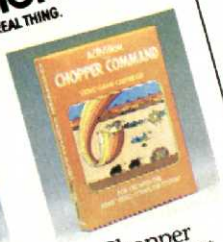

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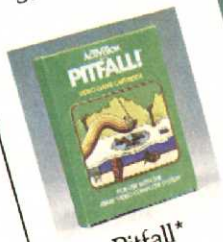

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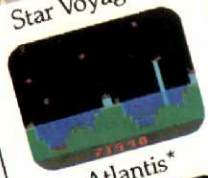

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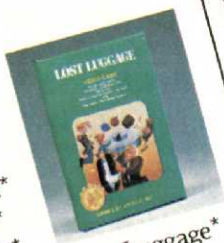

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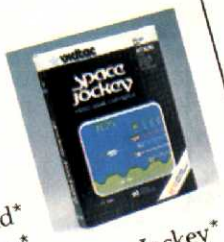

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THE PLAYER'S GUIDE TO MAZES

RUN, RUN, RUN, UNTIL YOU TURN THE TABLES!

THE COMING OF THE GOBBLE GAMES

Contrary to popular belief, **Pac-Man** was hardly the first electronic maze. Although the Namco/Midway coin-op classic really put the use of maze-like playfield over with the gaming public, several videogame cartridges predate the first appearance of the gallant gobbler. Atari's **Slot Racer**, and **Dodge 'Em** and Odyssey's **Take the Money and Run** all use the labyrinth as the basis of play-action.

There are, essentially, three types of electronic maze games: maze-chases, maze shoot-outs and maze explorations. The former, as a result of the phenomenal popularity of *Pac-Man*, is by far the most popular type. Unlike some other types of maze contests and the invasion games, maze-chases primarily stress the ability of maneuvering around the playfield rather than shooting accuracy and direct confrontation. Perhaps this, in part, explains the fact that female arcaders prefer maze-chase games above all others. Of course, these games are also greatly loved by the male gamers, too, which is why there are more and more of such machines filling the commercial fun parlors.

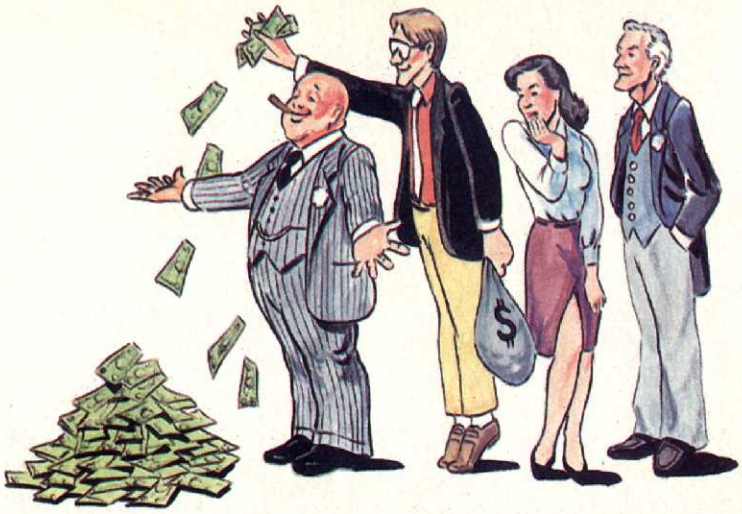
PAC MAN: THE CHAMP CHOMPER

Ever since **Space Invaders** revolutionized the coin-op field, Japan has led the world in the design of coin-op videogames. Yet it has become increasingly obvious that the U.S. and Japan do not always like the same type of machine. While science fiction themes predominate in this country, the outer space games never seized quite so strong a hold in the Orient. Also different is the Japanese players' strong preference for games that use very simple controls. Six- and seven-button coin-op designs just haven't met the same overwhelming success in Japan that they enjoy here.

Pac-Man was the direct result of this distinctly Japanese view of videogame design. It is certainly not an SF epic, and it employed the familiar joystick to move the hungry gobbler through the corridors.

Midway saw the potential in this somewhat unorthodox game after noting its great success in its native land and bought the license to market the machine in the United States.

Pac-Man's popularity grew



steadily through 1981, proving that making sweeping generalizations about what coin-oppers like can be a deceptive oversimplification. It wasn't long before arcade operators began reporting an unexpected development: *Pac-Man* was drawing relatively large numbers of women into the amusement centers. The game's subtle, non-militaristic theme combined with cartoon graphics and simple rules made *Pac-Man* an ideal "first game" for female novice players.

People can't seem to get enough of the gobbler and his four pursuers. *Pac-Man* is available in cartridge form for the Atari VCS and 400/800 computers and as an impressive stand-alone unit from Coleco. (That doesn't even count the legion of copies and near copies of the game that have swamped the hand-held field.)

The outstanding longevity of *Pac-Man* has given manufacturers plenty of time to make the gobbler character one of the most easily recognizable—and fully merchandised—symbols in America. You can dry yourself off with a *Pac-Man* towel, slip into some *Pac-Man* swimwear and loll on the beach on your *Pac-Man* towel. And then after a long day in the sun, you can drift off to sleep between crispy *Pac-Man* sheets. The coming fall will even bring a Saturday morning *Pac-Man* television show—with a feature film to follow.

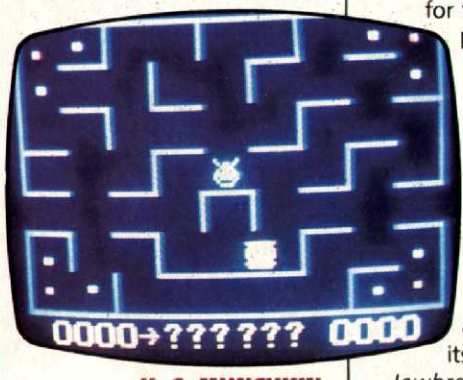
Pac-Man has spawned some interesting sequel and spin off games as well. Midway has distributed **Ms. Pac-Man** with its array of four pastel-colored mazes and **Mr. & Mrs. Pac-Man**, a pinball version of the gobbler's adventures.

GHOST WITH A GUN

Pac-Man isn't the only mazechase, not by a long shot. The original gobble game has spawned an entire genre of contests which utilize the same hide-and-seek concept with various embellishments and refinements.

Arcade Plus' entry into this category has won favor with owners of the Atari 400 and 800 computers. **Ghost Hunter** adds a number of features which make it an individual and distinctive game, including the option of head to head play. This spooky trip through a haunted mansion's labyrinthine halls has a flavor all its own, exemplified by the way the ghost hunter can turn into an ethereal gun at the appropriate moment for dispatching one of the supernatural horrors that float through the playfield.

In fact, this game can even play "head to head"!



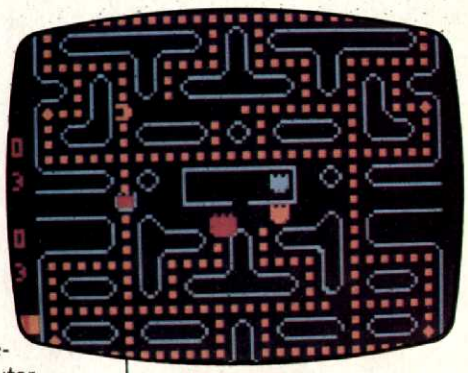
K. C. MUNCHKIN

THEY'RE HUNGRY!

A pair of computer maze chases have adopted a theme that emphasizes the eating aspect of games in which the player-directed character devours objects which line the maze while fleeing from the computer-controlled menaces. **Jawbreaker** (On Line Systems for the Atari 400/800) and **Snack Attack** (Data Most for the Apple II), present their action in the form of an electronic eating spree. In the former case, a set of teeth is wolfing down little hard candies, while in the latter, a cheery little whale is making a dinner of the dots that fill its undersea lair.

Jawbreaker, though best-known for its superb audio-visual effects, is also a beautifully playing game program with some of the smoothest animation seen on the home screen. *Snack Attack* shares many of the strengths, and also boasts a set of four different mazes to further enliven the action.

The "gobbler" in this contest, however, is a ravenous, giant whale!

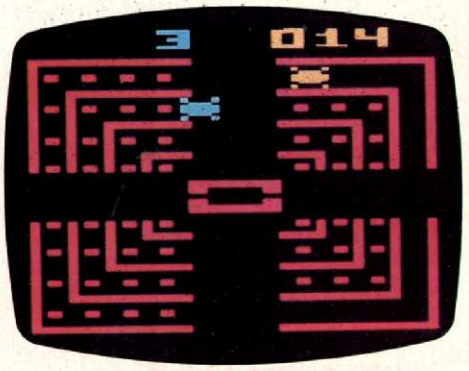


MUNCHIE

THE ARTFUL DODGERS

A couple of rounds of either **Dodge 'Em** (Atari for the VCS) or **Dodge Racer** (Synapse Software for the Atari 800) will convince anyone that all maze-chases are not alike. Both of these automotive games make use of the maze and the idea of clearing objects from the corridors.

The idea in both contests is essentially the same. As the driver of a video racer, the arcader must sweep the track while avoiding a round-ending collision with the computer-controlled crash car which zooms around the course in the opposite direction.



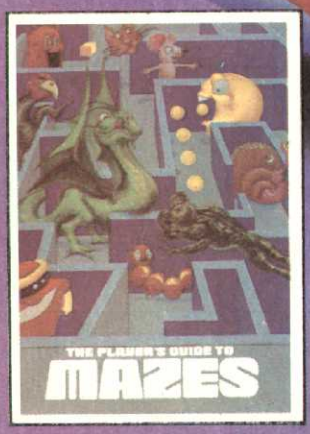
DODGE 'EM

SHOOT-OUT

CATACOMBS OF DEATH

Just as **Galaxian** introduced a new dimension to the invasion game genre, Stern's **Berzerk** pioneered a fresh approach to the use of the maze in videogames. By offering combat as well as maneuver, this "top 10" coin-op machine gave its legion of devoted players a game characterized by non-stop action *and* constant motion.

With the maze-shoot-outs, it's no longer a question of merely running and hiding until it's time to swallow an energizing pill. Players must actively attempt to dispatch a horde of implaccable foes prowling the twisting paths of the labyrinth. *Berzerk* also keeps arcaders on their toes by forcing them to keep their



IN THE LABYRINTH

on-screen representative scurrying from room to room in the maze. When a character stays in the same room comples too long, Evil Otto pops up at the left edge of the screen and cuts a swath of death across the playfield.

IT TAKES A THIEF

Thief is Datamost's rendition of a maze-shoot-out for the Apple II. It includes most of the basic elements found in coin-op winners like **Berzerk,** though it makes the action more pointed by setting a definite goal—getting through the entire maze in one piece to establish your credentials as a master thief.

There are three ways to destroy the attacking robots. They can be shot, left as a snack for the Unearthly Blob which performs a function similar to that of Evil Otto in *Berzerk,* or allowed to eliminate each other with random blasts of their laser guns once the blue mazes are reached.

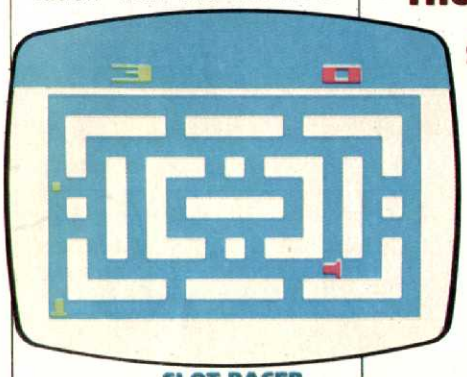
Fire and movement is accomplished with what has become almost a standard control scheme for this type of game. Moving the joystick will send the thief in the indicated direction.

Moving the stick while the zero-button is pressed will, however, aim the character's gun arm while keeping it otherwise motionless. Letting go of the button will fire a laser blast in the direction in which the arm is pointing at the time.

RUNNING THE GAUNTLET

Borg, programmed by Dan Thompson (with aid from Jeff Allen and Tom McWilliams Jr.), is a successful combination of elements found in a wide variety of maze shoot-out game programs, lacing with just enough originality to give *Borg* a distinctive personality.

The outstanding feature is the string of 10 specially constructed rooms through which the dauntless hero must pass on his way to a final confrontation with the nefarious Grud. These include such attractions as the Romper Room (in which there's precious little cover) to the Trash Compactor (which presents the peril its name implies).



SLOT RACER

HUNTED BY THE SS

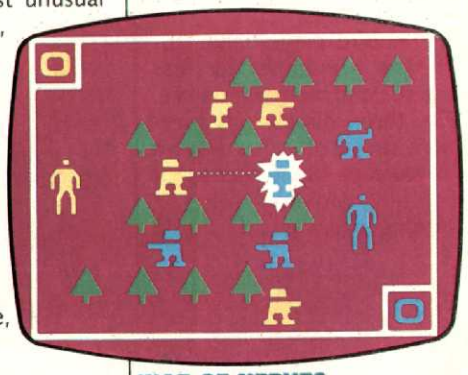
Castle Wolfenstein, an Apple II program by Silas Warner for Muse Software, makes the most imaginative use of the maze shoot-out configuration of any game received by **Electronic Games** magazine to date. The arcader takes the role of an Allied prisoner of war held in a fortress for interrogation by the SS during World War II.

The only alternative to death is to successfully move through the castle, going from room to room and floor to floor, seeking a way out. The player can win extra glory along the way by finding the secret war plans and carrying them out of the stronghold, into allied hands.

THOSE OFFBEAT VIDEO SHOOT-OUTS

Designers have used quite a bit of imagination in coming up with ways to use the maze in a gaming context. While Odyssey owners can grapple with the major positive and negative forces of the economy in **Take the Money and Run,** Atari VCS partisans can enjoy a brisk game of cops and robbers in **Maze Chase.**

Perhaps the most unusual of the maze games, however, is **Slot Racer.** This one might better have been called "Car Wars" (a name since used for a non-electronic game with a similar theme). In it, players careen around a city-maze, firing missiles from the hood-mounted launchers of their sleek racers in a bid to reduce congestion on the roads.



WAR OF NERVES

LET ME OUTTA HERE!

Iowa-based CE Software has produced an unusual game for the Apple II, **Mission Escape,** which turns the typical maze-shoot-out from a supreme test of hand-eye coordination into an absorbing strategic contest. Jim Jacobson's simulation of a getaway from a multi-room security station substitutes keyboard entry of commands for the expected joystick input and provides a greater variety

of enemies—drones, robots, blockades and storm troopers—than found in most titles in this genre.

The two previously outlined departures from the norm transform *Mission Escape* into a one-of-a-kind gaming experience. Careful planning of the movement and fire sequences, both your own and the enemy's, can make the difference between breathing the sweet air of freedom and having the read the computer's gloating victory message at the end of the game.

Mission Escape is designed to be played under a somewhat tighter rein than most other maze shoot-outs. Ammunition is sharply limited so there's no temptation to resort to mindless blasting, and the well-defined goal keeps the action from becoming too random and diffuse.

SURROUNDED BY ENEMIES!

K-razy Shoot-out (K-Byte, Atari 400 & 800, ROM cartridge), **Guardian** (Continental Software, Apple II, 48K disk) and **Crossfire** (On-Line, Apple II & Atari 400/800, 32K disk) are a trio of maze

The Secret Mazes!

THE CHALLENGE AWAITS

In the mystery maze contests, the gamer's sense of direction is tested to its limits. Whether the maze is viewed from a worm's-eye-view or a bird's, the ultimate goal of the mystery maze game is to successfully navigate through twisting, deceptive corridors, often while being pursued and/or in seach of some treasure.

A good memory is essential to this type of contest. But when memory falters, mapping is the next best thing. The gamer can save a lot of time by drawing a schematic of the path the on-screen surrogate takes, avoiding retraced steps and dead ends.

The bird's eye-view labyrinths are generally less realistic and more puzzle-like. The three dimensional versions, on the other hand, strive to recreate the sensation of actually moving down a snaking walkway.

THE CAGE WITHOUT BARS

Taking a step forward in terms of sophistication and realism is PDI/Beyond Software's **Captivity.** After beginning with a suitably lengthy overhead look at the maze and the player's position within it, the computer transforms the entire sequence into a straight-ahead look at the floor, walls and sky above.

Using the joystick controller, players can turn in any of four directions and move forward by pushing the stick away from them. The great difficulty here is not only determining one's position relative to the entire maze, but also keeping track of which direction the on-screen explorer is facing.

After several minutes of bumping into walls and marching in circles, frustrated gamers may want to call upon the game's trump card. By pressing the action button, the arcader gets a brief overview to help establish position and heading. But players must be miserly in their dependence upon this magic crutch, since it costs both time and valuable scoring points.

Clever use of coloration extends the three-dimensional illusion, allowing gamers to easily gauge the length of the corridor they are searching. In any case, an abrupt "whump" is heard should the gamer happen to get *too* close to a wall.

HEROES GO FORTH

Many game programs utilize mazes in order to create adventure scenarios in which heroes must encounter and defeat monsters, ghosts and dragons. Early entries into the field of graphic adventures, such as Epyx' **Rescue At Rigel** used sideways figures viewed in overhead mazes to project their graphic cues. Similarly, Atari's **Adventure** and **Haunted House** for the VCS use similar visual symbolism to create low-resolution escapades in which gamers must retrieve vital objects, yet still survive with a whole skin.

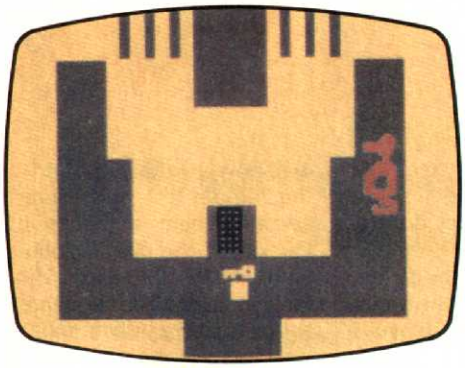
Adventure employs a fantasy setting while *Haunted*

shoot-outs which present players with dangers that pop up in unexpected places.

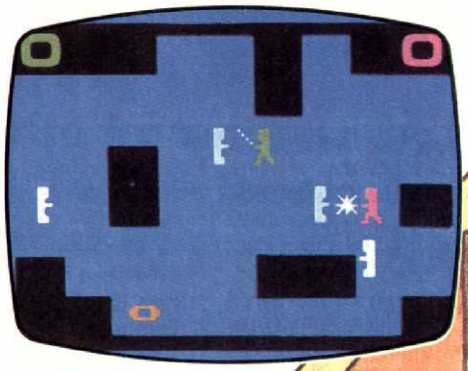
In *K-razy Shoot-Out*, the enemy robots appear one at a time along the edges of each maze-like room. Since the player must labor under a strict time limit, a lot of the action in this cartridge arises from the need to flee androids that suddenly materialze right next door to your on-screen character.

Guardian has a somewhat different flavor than many of the other maze shoot-outs. The player must successfully negotiate a series of simple mazes, each connected to the next-hardest by teleportation chambers. A chamber is located in one of the four corners of each labyrinth and moves from corner to corner randomly whenever the guardian fires the laser.

Many maze shoot-outs increase difficulty as the contest progresses by making the computer-controlled monsters more numerous or quicker on the trigger



ADVENTURE



ODYSSEY'S QUEST

House uses a multi- leveled mansion connected by stairways to simulate a scavenger hunt in a, well, haunted house.

The finest of these programmable videogame maze/adventures, however, is Odyssey's **Quest for the Rings.** This board-videogame hybrid uses surprisingly sophisticated graphics to recreate a variety of perilous dungeons, "peopled" by goblins, wraiths and the ever popular flame-breathing dragon.

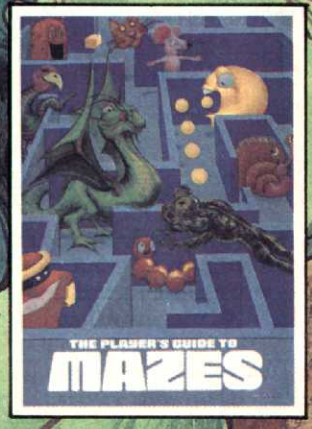
IN SEARCH OF PIRATE GOLD

Thunder Island, from A.N.A.L.O.G. Software (for the Atari 400 & 800 computers), places the adventuring arcader within the walls of a forgotten city and challenges him to escape. The maze is viewed from an overhead perspective, making it virtually invisible, except for the area nearest the torch-bearing fortune hunter. The fire illuminates the walls immediately surrounding the explorer, but this light is useless for surveying the overall scene.

Fortunately, the island is named for the fierce storms that constantly rage above it, and each peal of rumbling thunder is immediately followed by a blast of lightning that gives a brief but vivid overview of the entire maze.

THE MAD OVERLORD'S DOMAIN

Undisputed champion of the microcomputer maze adventures is



Wizardry from Sir-Tech Software for the Apple II. Although this fast-playing game includes many of the features associated with non-electronic role-playing games like **Dungeons & Dragons**™, the main focus of attention in the initial scenario of this multi-part quest is an extensive underground labyrinth.

This maze is viewed by the players—and up to six can participate—as it would be seen by someone actually walking up and down the halls. This means that optical illusions, pits and hidden monsters often come upon the unwary as a total surprise.

Wizardry is certainly more than just a straight-forward exploration maze, but it is this element that gives the game the open-ended, unfettered feel that has made it so popular with electronic adventurers.

COIN-OPS CAPITALIZE ON MAZEMANIA!

THE NEW MAZE GAMES

Mazes have definitely tunneled their way into the coin-op world's heart. Several new maze-chase games, such as Pacific Novelty's **Thief,** which utilizes a revolutionary TI phonetic voice-chip to provide the best computer kibitzing imaginable, and **Devil Fish,** a more modest entry in the maze-chase department, are on the way.

Several *Pac-Man* inspired games having political scenarios—such as crooked politicos being pursued through a maze by the FBI—are also set to debut, but the most important future direction in the maze game field will be the exploration theme. Centuri's **The Pit** sends gamers down into caverns after hidden treasure, while Konami's **Tutankham** portrays the player as a grave robber (or, to be euphemistic, perhaps an archeologist) moving through a multi-tiered pyramid constructed with traps and menaces galore.

TUTANKHAM

Whichever of these newcomers proves most successful, however, one thing is for sure: Maze games are a permanent part of the electronic gaming scene. Like target contests, alien invasions and scrolling shoot-outs, the maze has established itself as one of the basic types of video games.

So power up those flashlights and start exploring!

BEYOND BERZERK

The whole maze craze, of course, actually began in the arcades. The archetypical maze shoot-out was Stern's **Berzerk.** Now a new, deluxe version of that coin-op classic has reached the amusement centers, and its innovative play variation has already captured the imagination of arcaders.

In the original, gamers controlled a humanoid figure through a series a mazes, each patrolled by deadly drone-robots who could be zapped for bonus points. In **Frenzy,** the same play-mechanic is involved—even good old Evil Otto, and a surprising friend turn up to join in the fun—yet the construction of the maze itself is vastly different. Rather than a simple line maze, the walls in *Frenzy* are of two types. The solid ones deflect all shots—right back at the on-screen human if the gamer isn't careful—while the walls composed of round power-spheres can be disintegrated by laser fire.

THAT GOBBLIN' GAL

Coin-op wizards who've memorized the patterns clear through **Pac-Man,** will now be able to find a much more free-style contest awaiting them in the distaff version of the classic gobble game. In **Ms. Pac-Man** (Midway), players are offered three tunnels to *Pac-Man's* one, while the goblins move in much more random patterns. Moreover, even after the initial maze is mastered, there are three more, each constructed in an entirely different way, just waiting in the wings. Wacka-wacka. G

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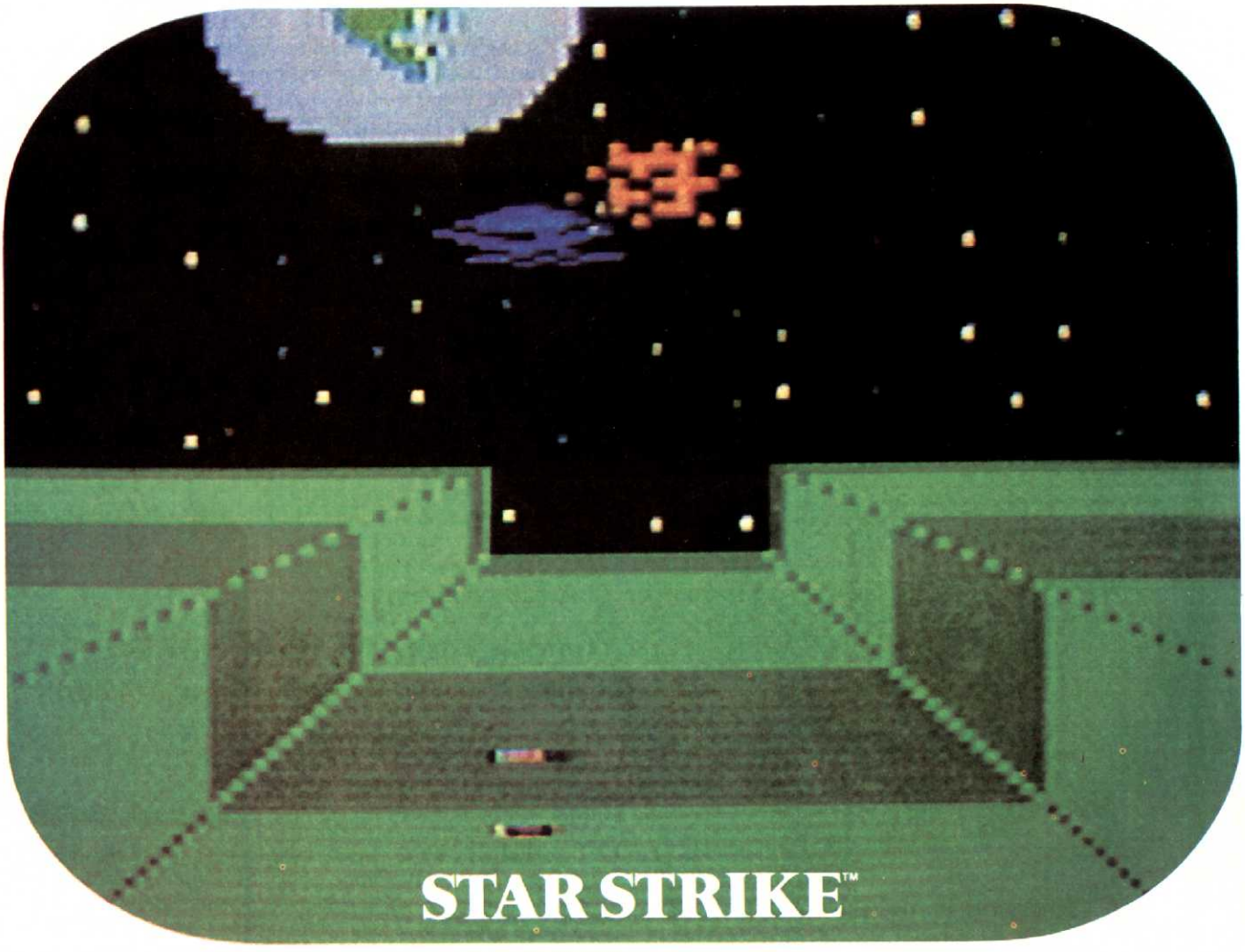

IS THEIR BEST ME EVER, NG ROOM IS 65 MPH."

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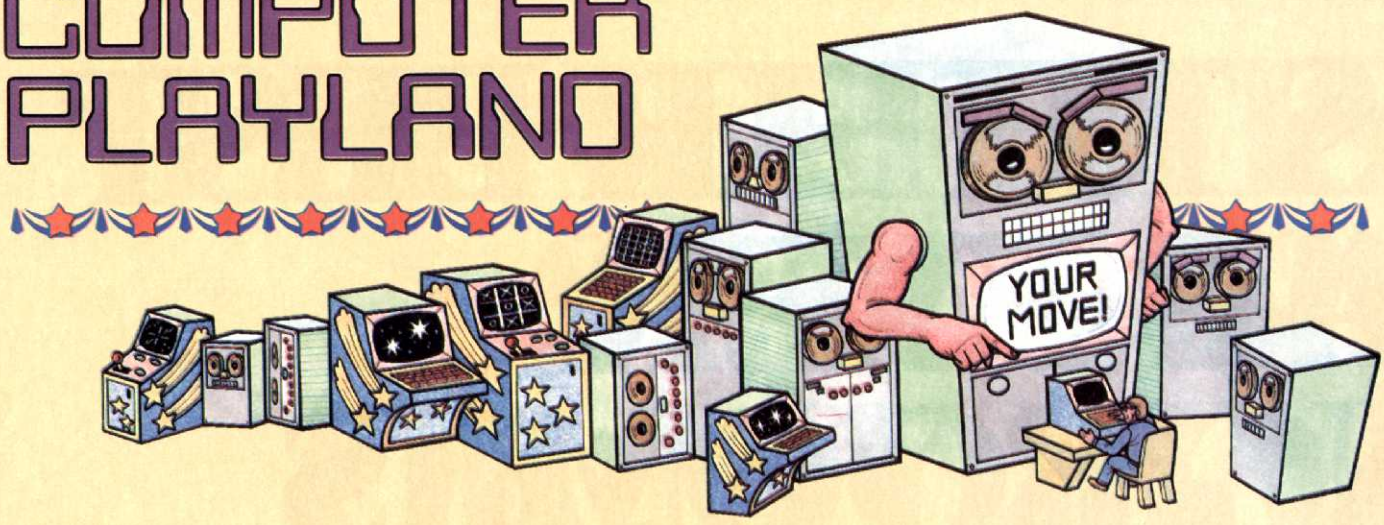
COMPUTER PLAYLAND



Prevent a Mid-Air Tragedy

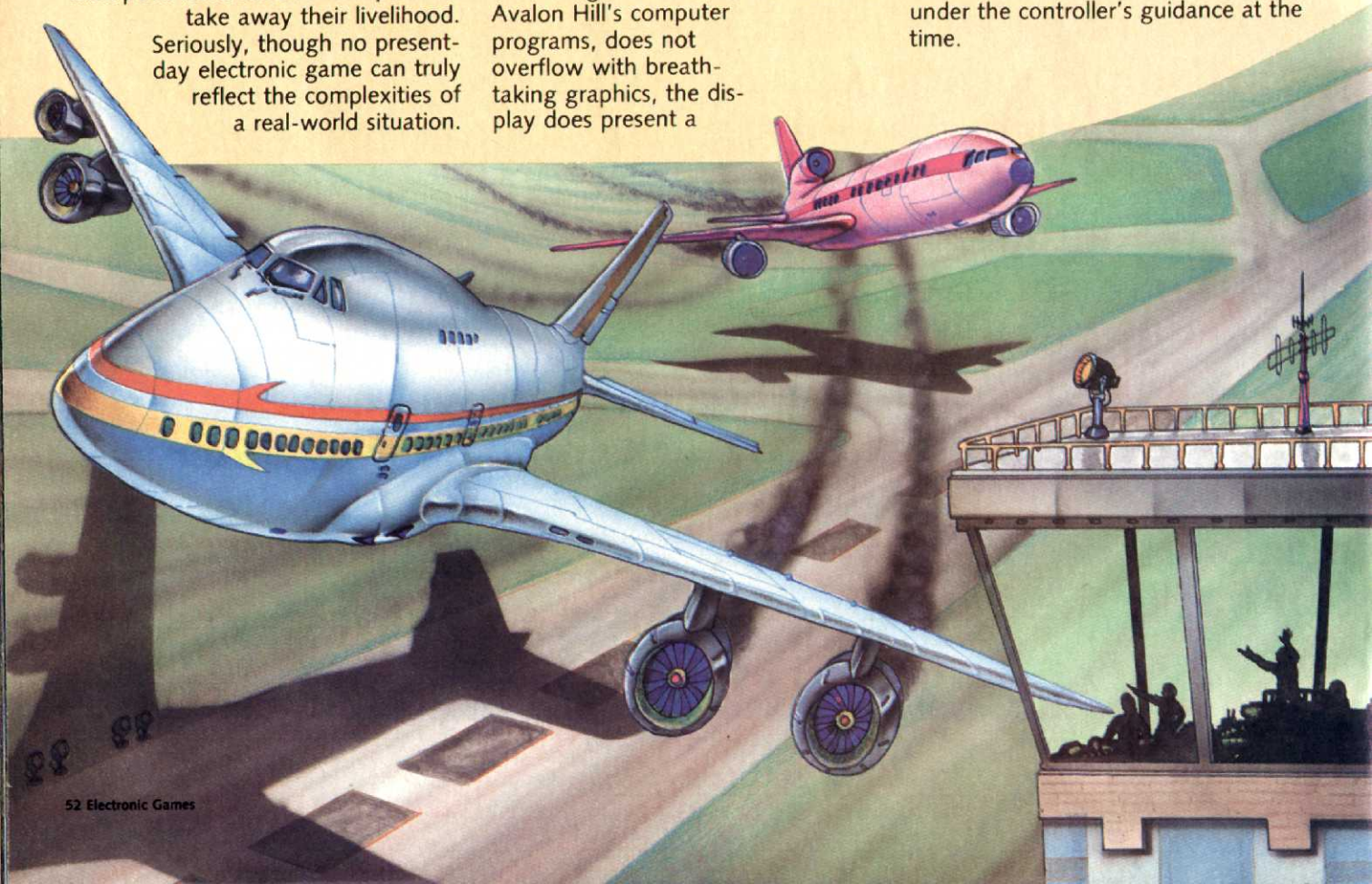
CONTROLLER

Avalon Hill/Atari 400 & 800/32K disk

If Avalon Hill had introduced this game a year or two earlier, it might have altered the course of history. Had President Reagan been able to show this real-time simulation to striking members of the Air Traffic Controllers Union, they might've hustled back to their posts lest a bunch of computerists take away their livelihood. Seriously, though no present-day electronic game can truly reflect the complexities of a real-world situation.

Controller comes about as close as anyone could wish. The arcader is given a choice seat in front of a radarscope in a control tower located near a smallish (two-runway) air field. Using the information provided by the 10- and 100-mile radar screens, the player directs the approaches and landings of up to eight flights.

Although *Controller*, like most of Avalon Hill's computer programs, does not overflow with breath-taking graphics, the display does present a wealth of data in easily decipherable form. The radar display shows each plane's position relative to the tower; a chart to the right of the scope indicates the heading, altitude and velocity of each aircraft in the game, and the section of the screen right below this summarizes statistics such as fuel, bearing and the nature of the maneuver underway for the plane directly under the controller's guidance at the time.



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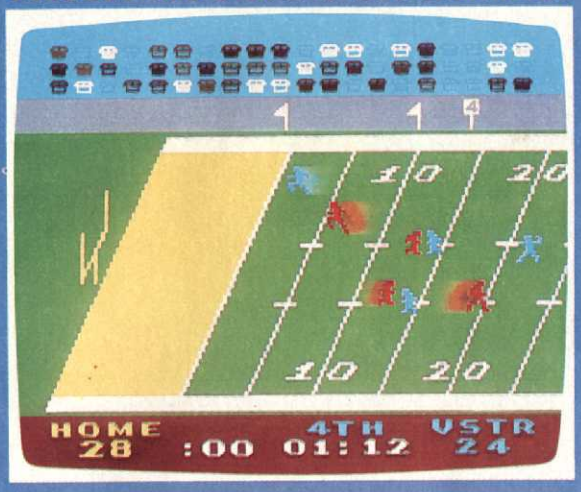

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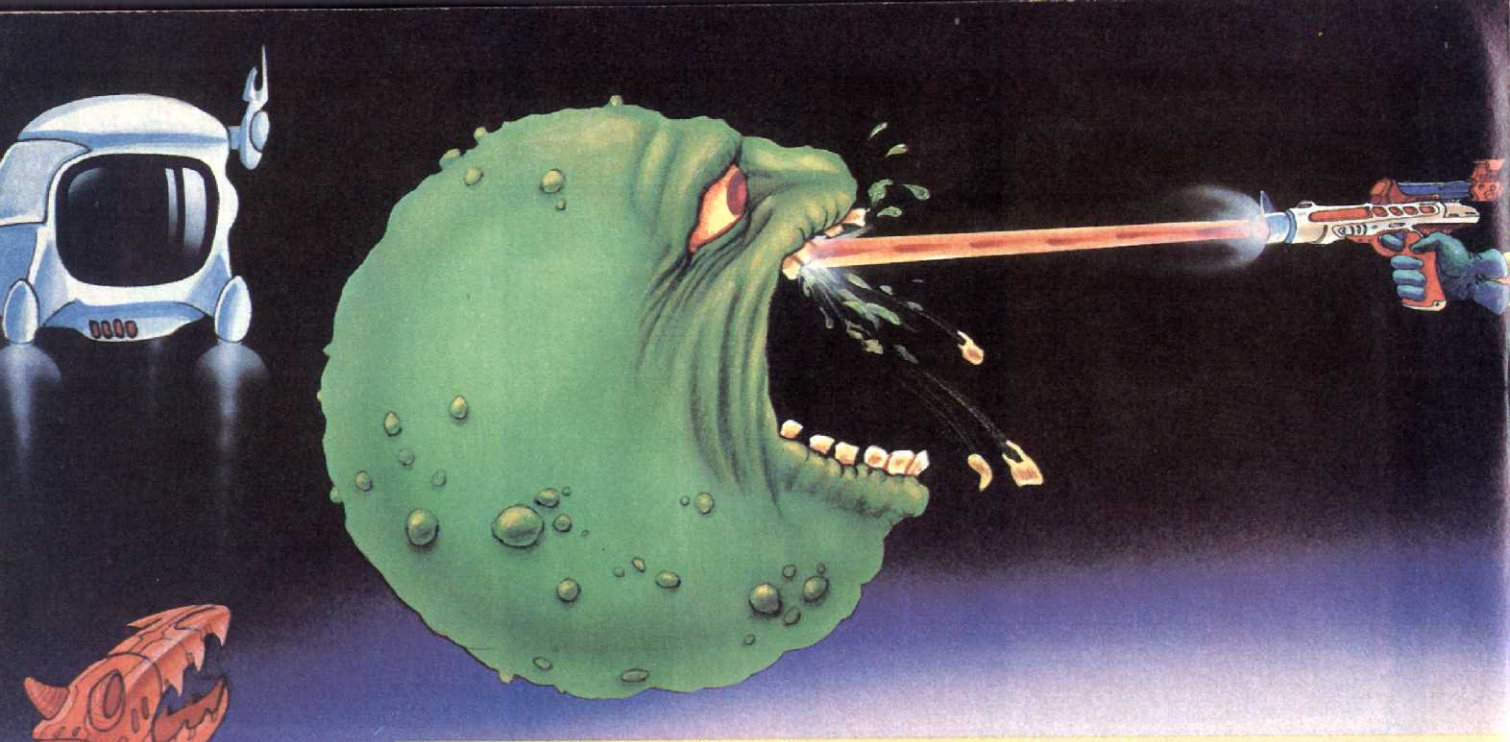


These factors, modified by the flight characteristics of the individual planes, must be rapidly evaluated by the player during every single second of play during the game.

You won't learn, much less master, *Controller* immediately, but it provides a bracing challenge for those who like games that mix strategy and tactics.

Though it is difficult to recommend *Controller* to the casual action game lover, it may be just the ticket.

You won't learn, much less master, *Controller* immediately, but it provides a bracing challenge for those who like games that mix strategy and tactics.

(Arnie Katz)

GUARDIAN

Continental Software/Apple II/48K

It's always a pity when a new game, bought with precious cash and high hopes, turns out to be a solid brass turkey. In a way, it's even worse to find a really excellent hunk of software that is disfigured by a single irritating flaw. **Guardian,** a maze shoot-out by the creative team of Tom and Jerry, is just such a game.

Playable with either the keyboard or joystick, the game asks the arcader to don the colorful costume of the Guardian. In this guise, you must negotiate a succession of six increasingly challenging mazes, each connected to the next by teleportation chambers. These chambers move from corner to corner around the edge of each playfield, changing location every time the Guardian sends a monster to its final reward.

Each round begins with a horde of creatures of all shapes and sizes circling the playfield in single file. The Guardian starts in the center of the screen, totally surrounded by potential foes.

It is this opening position that causes the problem. The monsters won't quit their game of electronic ring-around-the-rosy until the arcader actually shoots one with the laser gun. After that, every nastie on the screen converges on the Guardian's position, passing right through the walls when necessary, with intent to do grievous bodily harm.

GUARDIAN

The hitch is that there is nothing to prevent the Guardian from crossing the monsters' line-of-march so that the evil-fighter is no longer stuck right in the middle. Although touching a monster means death for the Guardian, there is enough room between the creatures' starting position and the edge of the field to permit the Guardian to hug the border and walk unmolested to the nearest corner. Once there, there is all the time in the world, despite the presence of an on-screen clock to time the action once it gets underway, to line up a near-perfect first shot. Once the Guardian fires from the corner, the monsters' programming causes something very, very interesting to happen: all the enemies tend to line up along the vertical and horizontal edge of the playfield which adjoin the corner the Guardian has selected.

You'll have to learn to fire quickly—and to change your aim from horizontal to vertical and back again—but there's almost no chance of one of the creatures getting close enough to kill the Guardian until you have wiped out all of them in the immediate vicinity. Long before this happens, the Guardian will have a chance to exit this phase of the game via the teleportation chamber.

The advantage this approach gives the Guardian increases rather than diminishes as the game continues. For instance, what good is an invisible maze with lethal walls when the Guardian can get outside the labyrinth in the five seconds it remains viewable on the screen?

The answer to this dilemma is, of course, to establish some house rules. The easiest to implement without a lot of argument is to not permit the Guardian to move until he has shot at least one creature. This will set the monsters in motion, and the game can then proceed as its design team originally intended.

Guardian is worth the extra trouble. It has the flavor of the best home version maze shoot-outs, but it presents the gamer with a situation that is different enough from other titles in the same genre to make it a likely winner with most arcaders.

When the house rule described earlier is in force, this is one of the most exciting action games ever produced for the Apple II. The graphics are attractive, and the concept is rather ingenious. A good one.

(Arnie Katz)

SNAKE BYTE

Sirius Software/Apple II/48K

Electronic line-building games slink off in a new direction, courtesy of designer Chuck Sommerville. The object is to direct your steadily lengthening reptile through the program's 28 rooms, eating all the juicy apples to be found in each and then exiting safely.

Apple owners who've latched onto Sirius' Joyport (an external, Atari joystick-compatible I/O device) are apt to become more fond of this disk than those who must make do with keyboard input. As it comes out of the package, **Snake Byte** utilizes the I-J-K-M control diamond that has become pretty much standard for keyboard-directed contests. The company has thoughtfully provided a simple means of reassigning the direct keys, which may come in particularly useful if you're a lefthanded arcader.

In light of this reviewer's well-known prejudice against action-oriented games that are not set up for joystick or paddle control, it must be admitted that *Snake Byte* plays surprisingly well with the keys. The movement choices are few enough to handle in this fashion, especially since there are no other controls to concern the player. Of course, it's going to be a lot more entertaining—and fast-paced—when played in conjunction with the Joyport.

As with all line-building contests, the routine of play is not overly complex. Your snake enters the playfield from the bottom and then must be steered around the green so that its head passes over the apples that randomly appear. Each room has a total of 10 apples, though taking too long to get them will incur a penalty in the form of three additional apples. You can tell at a glance if you are dawdling by periodically checking the bars at the side of the actual playfield. If the bars reach the top of the column, the computer will slap you with the aforementioned penalty.

Each time the snake swallows an apple, it adds another tail segment and picks up movement speed. The gamer begins with three snakes and gains one more each time all the apples in a room are consumed. Several circumstances can result in the death of a snake. It dies when its head touches any wall or one of its own segments. There's also an extra danger in the form of perilous plums. The player can select whether none, one or two of

SNAKE BYTE *Continued*

these perpetually bouncing horrors per room at the beginning of the game. The plums ricochet around the screen during play, but if one touches the head of a snake, the reptile dies.

SNAKE BYTE

The more perilous purple plums which are introduced into the action, the more bonus points the player collects for chomping apples. Clearing an entire level without losing a snake also earns extra points.

Though one might pine for the option of directing the on-screen action with a standard Apple joystick, *Snake Byte* turns out to be a pleasant recreation no matter what type of command system is used. It moves along at a decent clip, is moderately challenging and explores the line-game concept about as fully as any available program.

(Arnie Katz)

GRAF SPEE

Strategic Simulations/Apple 11/48K disk

The hunt to find and sink the *Bismarck* has largely overshadowed the equally thrilling search for the *Admiral Graf Spee* in the popular imagination. Maybe it's because there's a rousing popular song to celebrate the destruction of the *Bismarck,* but nothing similar to salute those gallant British sailors who crippled the *Admiral Graf Spee* in the Battle of the River Plate off the coast of South America.

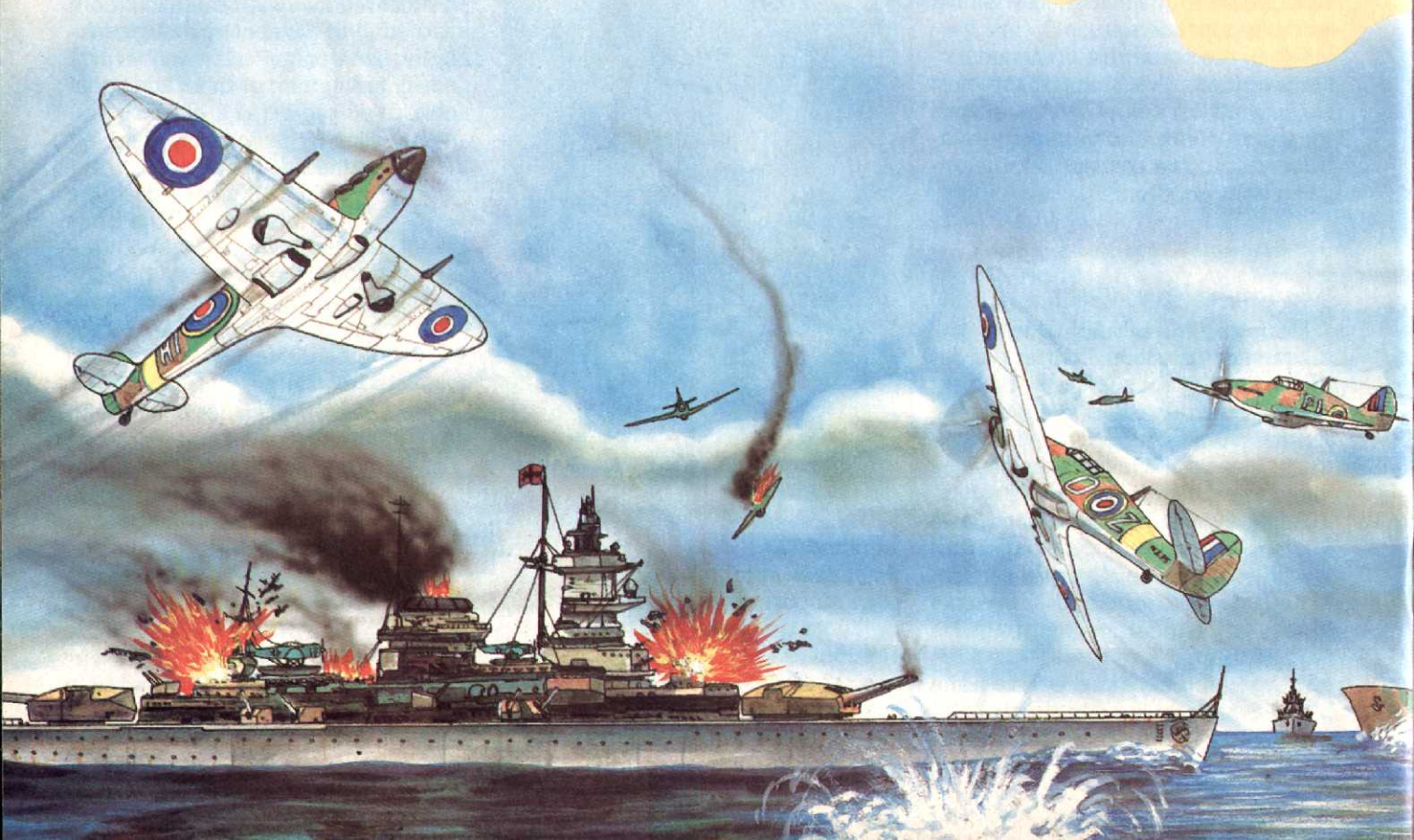
SSI, which has already marketed **Computer Bismarck,** now returns to the theme of WW II naval action with **Pursuit of the Graf Spee.** This is a contest for one or two players. Would-be admirals who can't find a suitable human opponent can command the British forces against computer-controlled Germans.

It's very rare to find a wargame that's easy to play while being satisfyingly complex. *Graf Spee* comes about as close as anything released in the last six months, however. Designer Joel Billings has done a fine job of making sure that the play-routine flows smoothly, allowing the participants to concentrate less on the rules and more on the game-situation.

Each turn consists of seven phases: the shadow phase (which determines if the *Graf Spee* has been sighted); the order entry phase (players input movement orders using simple codes); the computer activity phase (for the program to execute movement and search procedures); the combat phase (attacks by either or both sides), the merchant ship spotting phase (reports on whether any freighters have been found and sunk); the victory determination phase (for identifying a winner) and the save game option (for continuing a session at a later date). That may sound like a lot, but it really isn't. Each segment of the turn follows the previous one in logical order, and the whole procedure becomes second-nature after a few rounds.

Pursuit of the Graf Spee is truly state-of-the-art electronic wargaming. It should please hardcore strategists, while providing a painless introduction to this genre of computer game for those previously unfamiliar with it.

(Arnie Katz)



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FROG DRAWING BY CARTOONIST SAM GROSS

Enter the Robotron!

By BILL KUNKEL

ROBOTRON
Williams

As the technology involved in the creation of sophisticated coin-op videogames takes galaxy-spanning leaps forward, the overall result is better games all around. Even small, independent manufacturers who do their own Research and Development (R&D) can produce audio and visual effects that virtually sunburn the eyeballs and wiggle the ears of arcaders everywhere. So just imagine what the major companies are capable of turning out.

Imagine no longer. Take a stroll to the nearest game parlor, and let the old retinas rest on a creation such as Williams' incredible **Robotron.** The third in the videogaming saga begun with **Defender** and continued by **Stargate,** *Robotron* is a great departure from the preceding titles in terms of play concept and control mechanism. The horizontally-scrolling landscape and laser-firing command ship are no more, also among the missing—and let's hear a cheer from all fumble-fingered arcaders on this one—are the bevy of buttons controlling everything from movement to inviso-rays.

Robotron is a very simple game that faithfully follows the first law of coin-ops: easy to play, difficult to master. Most players will, at least, experience the satisfaction of dispatching the first round of baddies before the higher-level menaces grind them into oblivion.

As mentioned, *Robotron* continues the saga begun with *Defender* and *Stargate.* The commander of the last defensive spacecraft on this beleaguered planet is now out on his own, surrounded on all sides, on the bombed-out world's surface. The defender is armed only with an anti-robot laser gun, but this handy-dandy item will destroy everything but the Hulks—well described behemoths that can only be held at bay by the laser.

Some gamers' immediate ink-blot-type reaction to *Robotron* is that it is sort of like **Berzerk,** but without a maze. In fact, however, it's a full-scale video melee of the most awesome dimensions imaginable. Not only is the screen filled with monsters, but there are men, women and children to be rescued (for bonus points). These "clones" are totally defenseless and can be placed under the defender's protective custody by passing over them. The first human rescued nets the player 1,000 points, the second 2,000, and so on right up to the fifth, after which each human rescued is worth 5,000 pointeroonies.

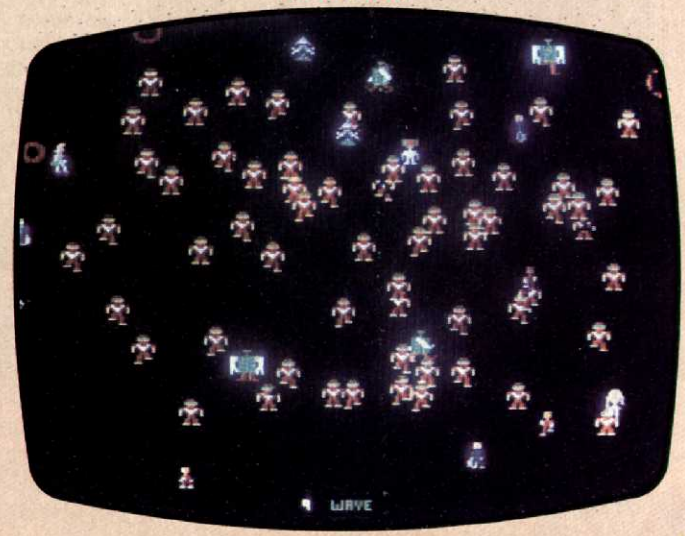
In fact, there are more characters on-screen, moving independently and simultaneously, than ever seen in any other videogame prior to this groundbreaker. The playfield is a virtual swarm of multi-colored, swiftly converging characters, both hostile and dependent. The ability to manipulate vast numbers of on-screen graphic elements is called "screen RAM". This is the Random Access Memory the game can allot to that function. Boy, does *Robotron* have screen RAM coming out of its ears!

The incredible gridlock of humans and monstrosities makes the center of the screen just about the game's most perilous position. Collect/protect what humans can be saved and get into one of the field's four corners in order to keep the defense limited to merely (ha!) two sides. Of course, by the fifth level and up, the speed with which the nasties are rushing at you becomes so intense that even this tactic may not be enough to save you, much less the hapless charges left in your care.

The enemies include "grunts"

ROBOTRON

ROBOTRON



THE WORLD WE KNOW HAS SPAWNED ANOTHER WORLD.
A PARALLEL WORLD OF ENERGY AND LIGHT,
A WORLD WHERE VIDEO GAME BATTLES ARE REAL.

TRON

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ENTER THE WORLD OF TRON, THE VIDEO GAME FROM BALLY/MIDWAY, BASED ON THE FUTURISTIC ADVENTURE MOTION PICTURE FROM WALT DISNEY PRODUCTIONS.

Bally/MIDWAY™

which are the most easily dispatched of the enemy hordes. One laser blast, and this species of cannon-fodder is gone like a cool breeze. The "Hulks", as previously mentioned, are impervious to the defender's weapon, but can be held at bay, or derailed. "Spheroids" are harmless looking, donut-like objects. They are, in fact, anything *but* harmless. They are actually the alien mothership which, if left undestroyed, will spit out tiny hatchlings that rapidly evolve into "enforcers", beings capable of launching killer "sparks". "Tanks" are tread-driven robots which fire rebounding shells, while electrodes are stationary menaces that serve as land mines. Fortunately, the grunts, not being high-powered thinkers, are just as likely to wander into them.

In every fifth wave, the player must face the "Brain", the game's most formidable adversary. It can destroy either by contact or by launching a cruise missile. The Brain is especially fond of destroying humans.

Robotron's high-powered excitement is aided immeasurably by its double-joystick control scheme. The left joystick dictates the defender's on-screen motion while the right stick can fire the laser instantaneously in any of eight directions. This allows for machine-gun-like action in a game that hardly lacks for excitement in any case. Pick hit of the month!

LOCO MOTION

Centuri

One of the more off-beat, but nonetheless interesting games to appear in some while is Centuri's latest, **Loco Motion.** This machine lets gamers play choo-choo train engineer on a brightly colored grid-like playfield to the tune of "I've Been Working on the Railroad".

Arcaders manipulate a four-way joystick and a speed button to control the direction and acceleration of their train as it rumbles down the distinctively-colored yellow track.

The basic idea is to keep from running off the track. To get the really juicy scores, though, players must drive locomotives into the passenger stations and pick up the waiting straphangers. There's even a bonus station that can only be reached during a limited time period. The faster the player gets to the special station, the more bonus points he (or she) collects (from 1,000-5,000).

Those gamers who love to discover patterns, will have to work like coal-shovelers to decipher this game's sure-fire routes, since the entire layout changes with each successful crossing. Players tend to either be enchanted

LOCO MOTION COIN-OP

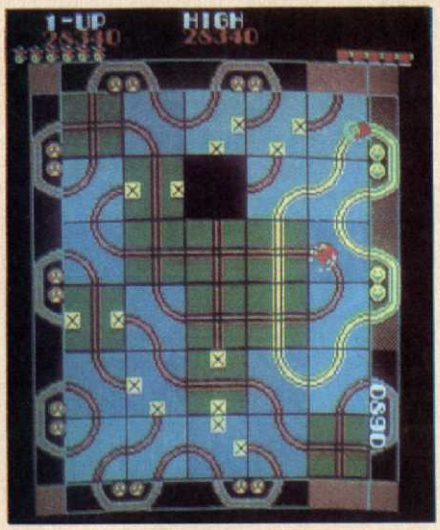
or indifferent to this highly unusual game, which challenges tried-and-true arcading skills within a totally novel context. For originality alone, *Loco Motion* should have a few tokens inserted by any player. Stoke her up and see how she runs. Who knows, you may be the first electronic Casey Jones.

This is one game, however, that won't be instantly mastered, mainly because of its unique, blocked-out grid playfield. The screen is bordered on all sides by sections of curved track that serve as the pickup points for passengers. These loops must be reached by paying constant attention to the playfield scenario.

As previously mentioned, the key here is to "follow the yellow brick road", that is, stay on the bright yellow tracks and soon the old chugger will be packed to the rafters with passengers.

Be careful when speeding up. While you do want to reach the bonus station and grab those big points, it will be much more difficult to maneuver your locomotive at super-speeds. At the novice stage of familiarity with *Loco Motion*, stay at the moderate speeds and learn the mechanics of steering and staying on course.

So remember, don't be put off by the offbeat playfield. Just take her for a trial run.



LOCO MOTION PLAYFIELD

FANTASY

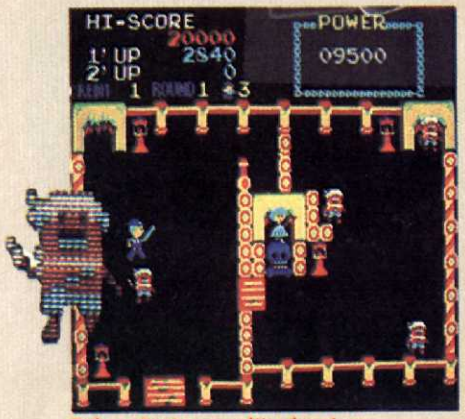
Rock-Ola

Here's the first big league entry in the videogame sweepstakes from juke box manufacturer-turned-coin-op-videogame maker, Rock-Ola, and it's an amazing visual treat! Using at least ten different playfields in a multi-phase adventure that has real depth.

The contest begins when your sweetie, a cutie called 'Cheri', is kidnapped from right under your nose, on your very own Fantasy Island, by a gang of pirates. You instantly take up the chase in a hot air balloon, avoiding, it is devoutly hoped, the buccaneers' cannon fire while attempting to land on their ship's deck. This accomplished, you engage the pirates in a series of combats, wiping them out either via sword thrust or by virtue of leading them in front of a cannon while it happens to be going off.

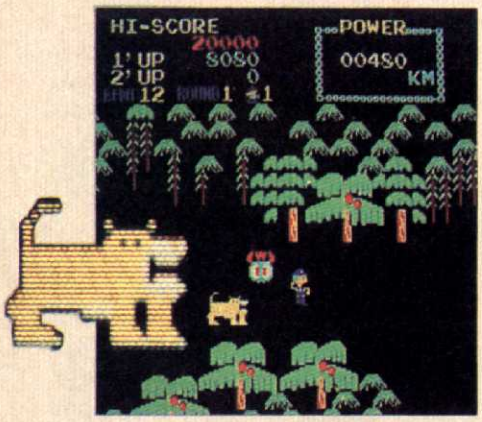
Wipe out the brigands and—wouldn't you know it?—a big red bird comes and carries off your lady. Back on the trail, you face gorillas, baboons, foxes, tigers, hostile jungle tribes and a host of adversaries. Whip *these* characters and a helicopter whisks Cheri off screen. Back in your trusty hot-air balloon, you give rousing chase over open sea, engaging a squadron of armed helicopters to keep from getting bored. Incredibly, you wind up over London Bridge, which has inexplicably mounted a cannon in its middle and is blasting away like crazy. You must lure the choppers into this cannonade, at which point the bridge will open and you drift off together into the sunset, Cheri cooing, "I love you."

If you can still gut it out, you can start all over at this point, but without any discernible increase in difficulty. It's really quite charming. A whimsical near-classic, in fact. Check it out.

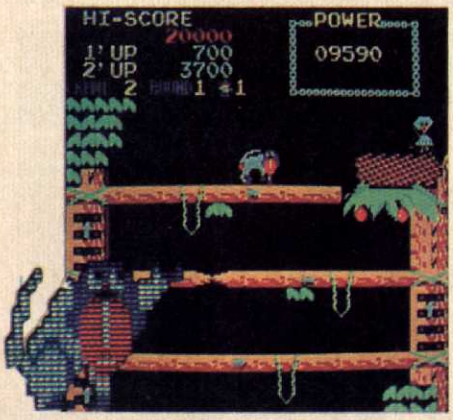


Take a Fantasy multi-adventure courtesy of Rockola.

Fantasy starts out, apropos, on Fantasy Island, and ends in a ballon



In Fantasy, gamers experience a multi-scenario adventure that involves pirates, unfriendly natives, nasty giant birds and even a lady in distress!



Note: As the number of companies entering the coin-op competition mushrooms, it may become a little difficult to find all the games covered in **EG**. The best places to look are the large (50 machines or more) arcades that not only have more games, but which are often used in play-testing.

ZAXXON REVISITED

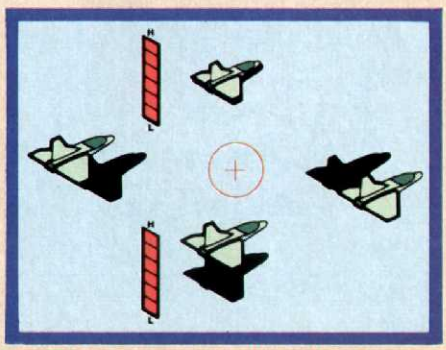
In a recent **EG** we gave something of a mixed review to Sega/Gremlin's graphic marvel, **Zaxxon,** because of its weak control system. The game uses a three-quarter perspective in which the ship's shadow cast on the ground below combines with the altitude meter on the left of the playfield to give the arcader information needed to steer the craft. Problem was, most gamers had trouble getting the hang of the thing.

Responding to this need, Sega has kindly sent along diagrams that will help immeasurably in teaching novice gamers how to maneuver the ship over walls, under death rays and around rockets.

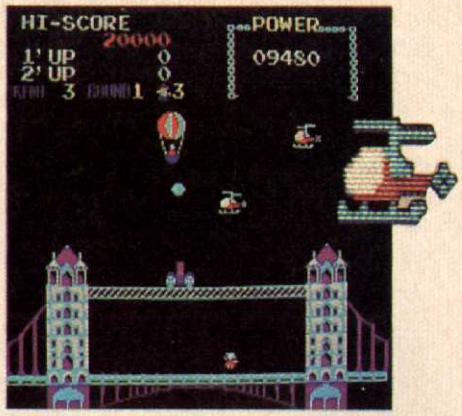
Unfortunately, during the outer space sequence, the ship casts no shadow, so maneuvering remains a difficulty. Nonetheless, study the diagrams, and you'll find that a lot more graphic thrills can be obtained for that same quarter of a dollar.

Coin-op pilots face their heaviest challenge, of course, over the land-sequences, so mastery of that maneuver will eliminate the predominance of difficulties, though certainly not all of them.

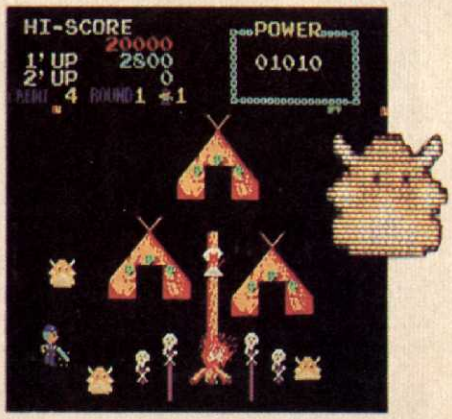
Once in outer space, though, the lack of a shadow is generally not fatal. The major difficulty is in going on the offensive against the missiles being launched by the alien heavies. Blasts from your ship may wind up sailing straight across—or behind—its intended target. This is because the pilot has no way of determining the missile's distance in relation to this ship.



Diagrams show how the craft in Sega's Zaxxon can be lined up using the visual cues provided by the ship's position to its shadow and the altimeter

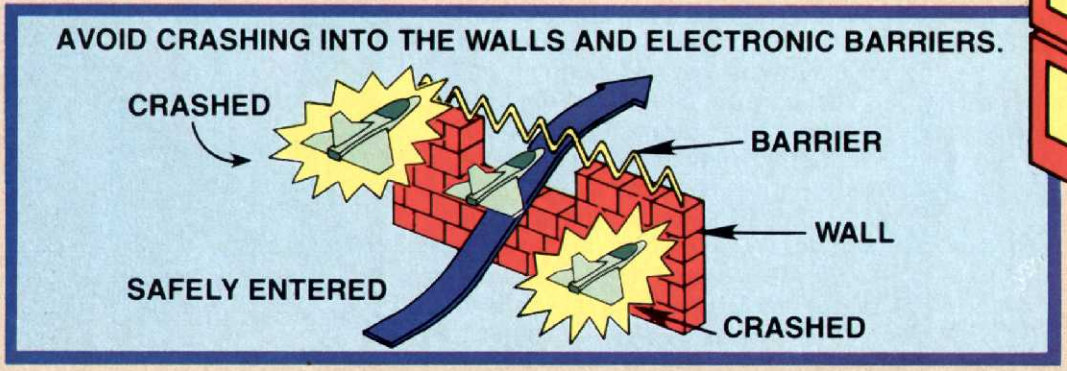


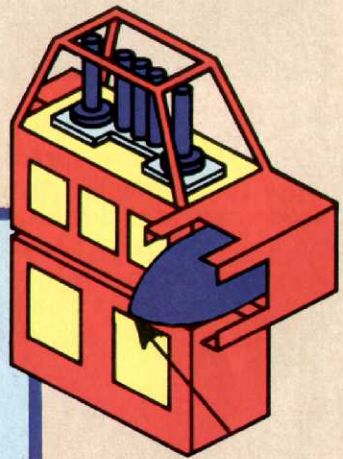
As Fantasy reaches its dramatic conclusion, players fight an air battle over fabled London Bridge with an armed helicopter



Two possible solutions present themselves: keep firing and hope for the best, or simply avoid them. G

Correction Dept: In EG's June issue, we refered to a deluxe version of **Pac-Man** that features three scrolling points. Although there *are* souped-up versions of the gobble game that have Midway's approval, this version does not. S'all right? S'all right.





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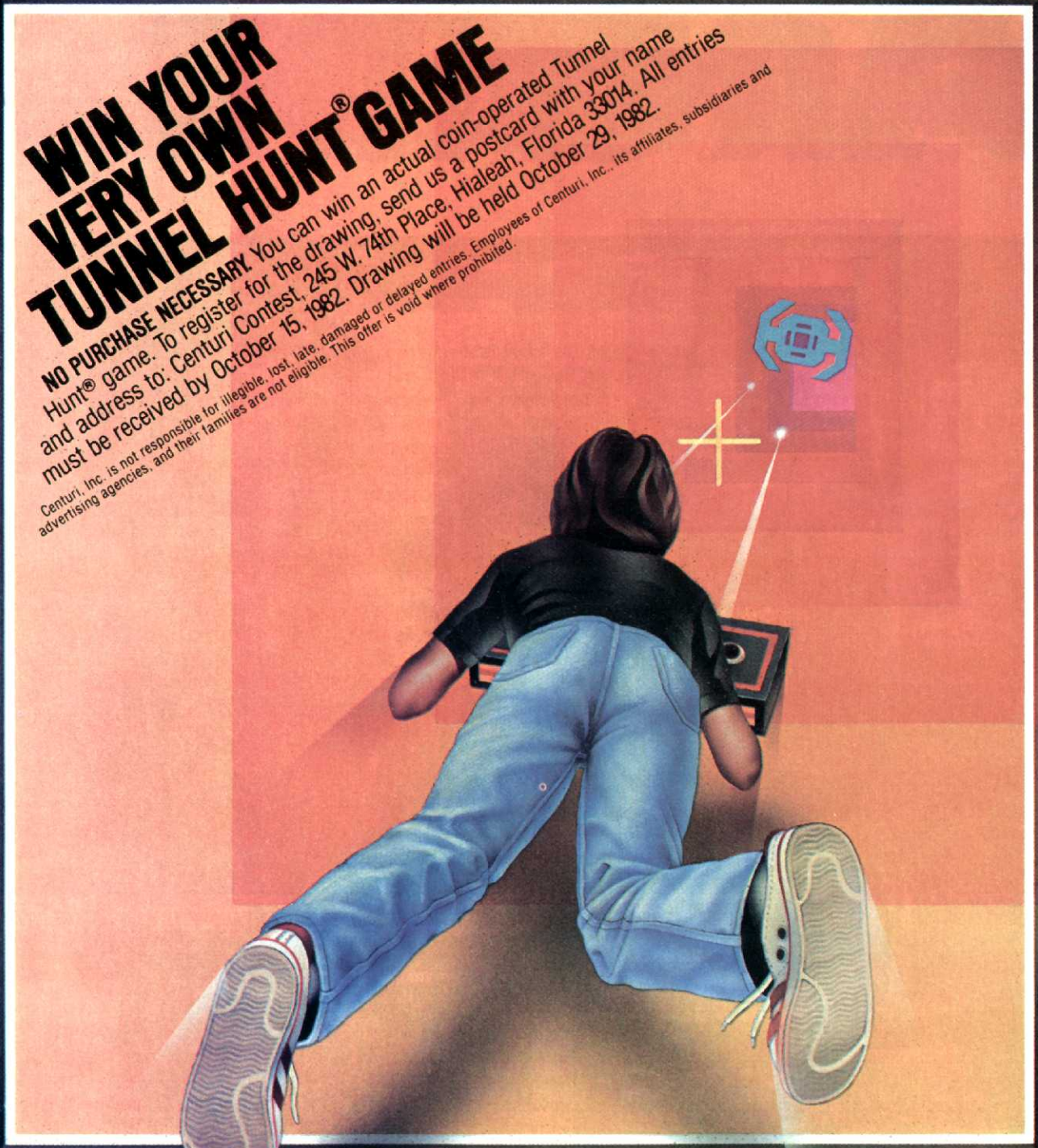

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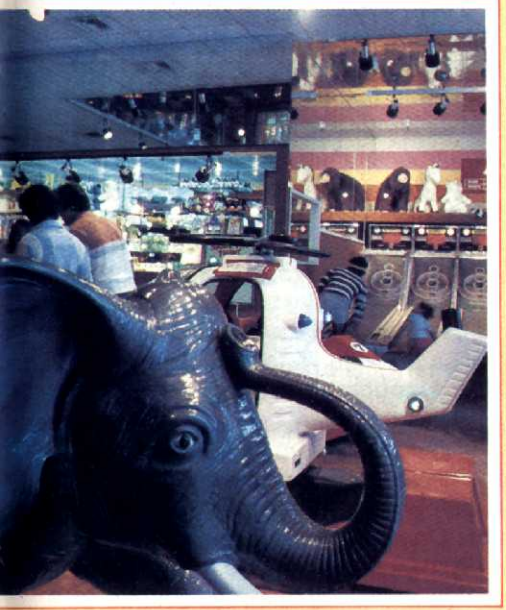


Visit a Tropical Fun Factory

By DAVID LUSTIG

Perhaps most folks would consider just being in Hawaii pretty close to paradise. For most arcaders, however, even those tropical breezes, warm sands and sparkling oceanfront might not be enough to salve the desire for a good go at **Turbo, Robotron, Pac-Man** or **Stargate**.

Fear not, island gamers, for one chain alone has no fewer than nine arcades scattered through Hawaii, most of them centered around Oahu. They all bear the name Fernandez Fun Factory and are owned by Kane (pronounced *"Kah'-nee"*) Fernandez. The Fernandez family has a long tradition of being involved with entertainment on the islands dating back to 1903, when Kane's father, E.K. Fernandez, brought the first movies, carnivals and professional wrestling to Hawaii. That carnival is *still* going strong today.

Hawaiians' favorite games are **Ms. Pac-Man, Turbo** and **Donkey Kong,** in that order, but the Fun Factories are also heavily into skeeball and foosball, which Kane likes because of their greater longevity.

Kane also does quite a bit of game testing on new machines. When a promising entry turns up, two to four are purchased and installed at the arcade in Pearlridge where the players themselves put them through a tough test. Games are given four to eight weeks to catch fire, at which point the decision is made as to purchase more or not. During **EG's** vist, Kane was trying **Zaxxon**, *Robotron*, **Looping**, **Fantasy** and **Dig Dug** (the first Namco-created Atari coin-op) as well as a new item called **Boomball.**

The Fun Factory photographed for this installment of "Arcade America" is the Waianae location, managed by Peter Apo, a recent graduate of the Randy Fromm Arcade School. He is a firm believer in the "no smoking, drinking or eating" rules, and is also an expert at keeping his machines in tip-top playing condition. The store employs six people—all local folk, housewives and such, who are familiar with the neighborhood and its residents. The most frequently-played machines in that particular Fun Factory are *Donkey Kong* and *Ms. Pac-Man*. Apo's biggest disappointment was **Qix**, which was in and out of his arcade within two weeks, cresting and waning almost before his eyes.

As far as positioning games goes, Peter has no strict philosophy. "When we get a new game that the kids like, they'll find it wherever we put it. It's either an instant hit, or it's going nowhere."

When the arcade is about to close, a public address announcement gives players a five-minute warning, with an additional five-minute grace period extended to gamers on a hot streak.

And, after all, when a player is in Hawaii, what other kind of streak could they possibly be on? EG

PASSPORT TO ADVENTURE

The Hills Are Alive with the Sound of . . . Danger!

By STEVE DAVIDSON

KABUL SPY

Sirius Software/Apple II/48K disk

Although last year's Soviet invasion thrust Afghanistan into more-than-usual prominence in the daily newspapers, this part of the world has long been known as a center of international intrigue. The mountainous mecca of mystery serves as the backdrop for this decidedly different adventure game created by Tim Wikson with special programming assistance provided by Dan Thompson.

Kabul Spy gives the gamer the chance to taste the thrills of being a top field operative in an unnamed intelligence organization. The situation when the action begins is that you have received the assignment of tracking down the whereabouts of Professor Paul Eisenstadt. This man was kidnapped in May, 1981, possibly by the infamous KGB. It seems that Dr. Eisenstadt has some knowledge which, to paraphrase a hundred old movies, must not fall into Enemy Hands. The mission: rescue the professor, or at least make sure that his vital secret stays out of the hands of America's adversaries.

Shades of James Bond! Starting from Banawalpur, Pakistan, the secret agent must travel toward the Afghanistanni border to the town of Quetta, where a guide will lead him (or her) across the frontier into the country. Using your intelligence, powers of observation and, when nothing else works, a bit of the old ultra-violence, you must navigate through a shadowy world as full of peril as any monster-packed labyrinth.

Sirius Software originally made its reputation with a series of fast-action arcade-style games, but the company doesn't need to take a back seat to others when it comes to adventure contests, if *Kabul Spy* is any indication. This is one of the smoothest-playing illustrated adventures yet produced. It combines the richness of the typical text-only quest with a stunning series of high resolution full-color drawings. Not only are the visuals well done, but there is virtually no waiting for each scene to paint itself across the screen. This often proved to be a problem with the first few illustrated adventure games, but *Kabul Spy's* speed of play is truly admirable. It seldom takes more than a couple of seconds to get the new picture.

Give Sirius high marks for lowering the player frustration level by making *Kabul Spy* exceptionally easy to operate. One help is that the spy enters written commands in the form of short sentences instead of being restricted to simple verb-noun combinations. The only requirement is that the verb must precede the object of the sentence. (Example: an agent who wants to throw a little illumination on the subject must type "Turn on the light", not "Turn the light on" in order for the computer to properly understand the request.) This command structure makes it possible to enter types of orders that would have been unacceptable in many previous games. For instance, it is perfectly permissible to type an order that includes a noun clause such as "Open the door with the skeleton key."

Talking to a character your spy encounters in the course of the adventure couldn't be easier. Just begin the sentence with "ask" or "say" to alert the program of your desire for communication.

As in many other games, *Kabul Spy* features a number of one- and two-letter movement commands, as well as such single-word order for such things as inventorying your personal possessions or entering a building. In addition, it is possible to utilize multiple-

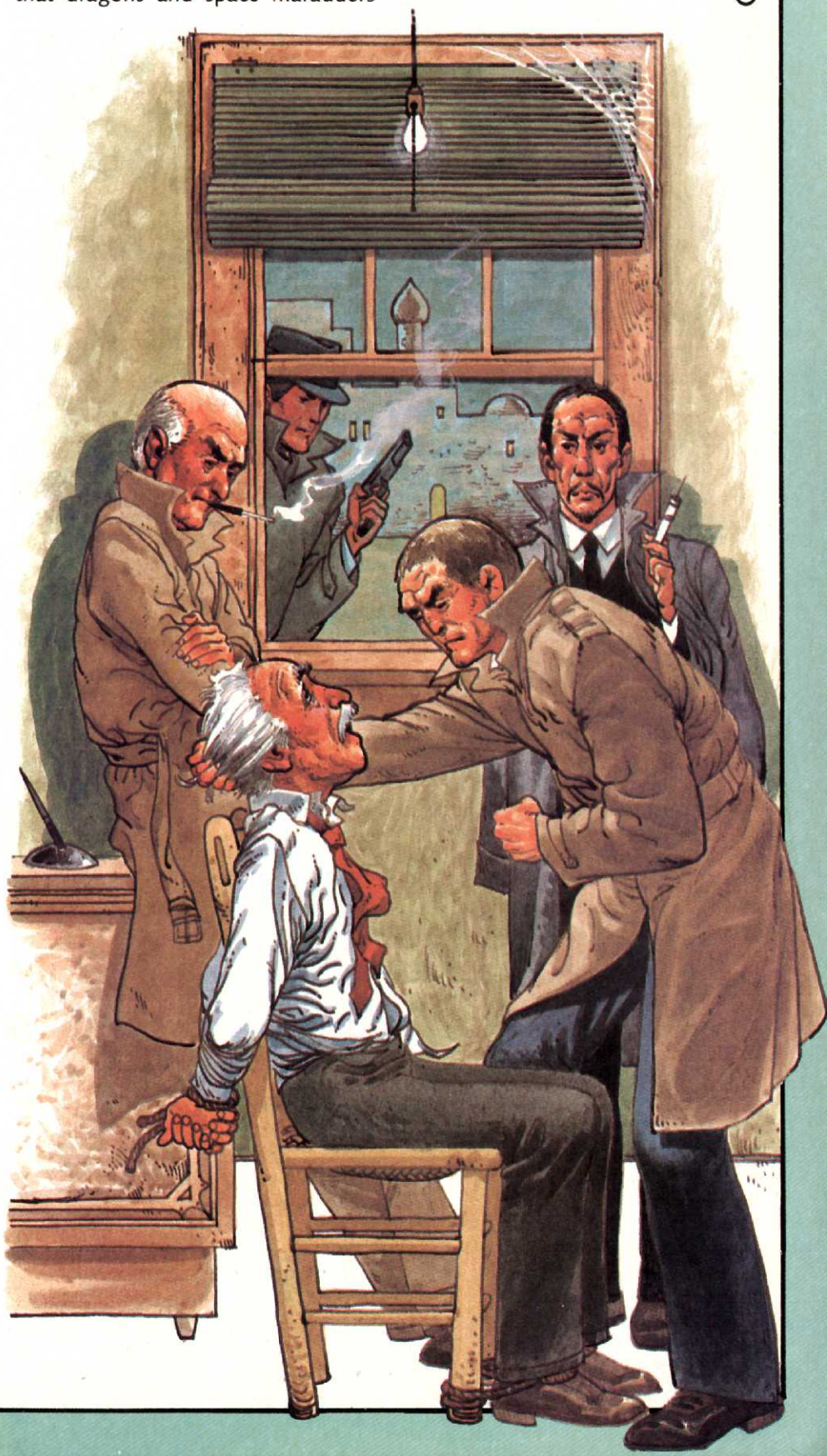
statement commands such as: "open the drawer, get the plans, leave the room" as long as the length of the line doesn't exceed 40 characters and each individual action is separated from those before and after it by commas. Also making possible faster interaction between the machine and the gamer is the use of the backslash (/) to cause a previously given order to be repeated. Putting the backslash on a line with other commands causes the computer to rerun the order that immediately precedes it in the line. Putting a backslash alone on a line tells the computer to re-execute the entire previous command, even if it was composed of two or three different actions.

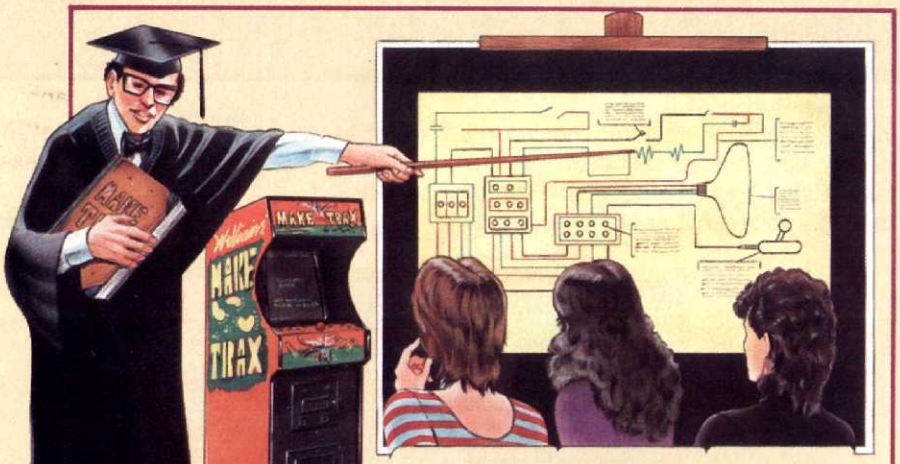
The would-be spy can also choose from among three options concerning the length of the descriptions which the game provides to explain events as they unfold. You can choose "long" (a complete word picture is given every time), "concise" (the computer switches to a short description whenever the spy enters the same area for the second time) or "brief" (one-sentence descriptions at all times). It is even possible to get a transcript of events if you've got a printer attached to your Apple II!

According to the four-page instruction folder, players are scored on the basis of their decisions throughout the game and other, unnamed, variables. It can be checked during the course of play by typing "score" and is always expressed as a number in a ratio with 700 (generally the top score in most circumstances). Negative points are a possibility in some situations, and even an expert adventurer will not find it easy to approach a perfect record.

Many game programs are technically impressive, but dull to play. *Kabul Spy* isn't one of those. This suspenseful scenario maintains interest from start to finish—and even grizzled veterans of a hundred electronic monster mashes won't be able to breeze right through in a couple of sessions. Fortunately, *Kabul Spy* has an easy-to-use "save disk" feature that makes it easy to play in short bursts without having to start from square one every time.

This game is further proof that computer gaming has moved into a new, more sophisticated period. As recently as a year ago, most software suppliers would've thought twice before bringing out an adventure game that wasn't closely tied to science fiction or fantasy. *Kabul Spy* is undeniable proof that dragons and space marauders aren't always necessary to create an involving, fascinating role-playing experience.





COIN-OP CLASSROOM

Save the Humanoids in Stargate!

By BILL HEINEMAN

Editor's note: Last issue arcade ace Bill Heineman provided his analysis of Williams' stand-out coin-op, Defender. This time, our professor of Arcadology tackles the even more challenging sequel, Stargate.

This is an update of the strategy to be used against the Alpha Proximians. The Proximians have enlisted the aid of the Yllibian Star Fleet and now have six more new ships to use against our fleet. The Proximians have also updated their Bomber ships to produce highly dangerous Firebombers.

The mission is still the same: defend the Humanoids and keep the enemy fleet in check. The Threshold will no longer be used to attack the Aliens. The ship that is to be used against the new enemy fleet is the Discovery; one of the new avenger class fighters. The Discovery has all the capabilities of the Threshold, with the addition of an anti-matter cloaking shield. The Discovery's cloaking device has been coded: Inviso.

The Inviso, when activated, puts an anti-matter barrier around the Discovery, effectively hiding the ship and making it impenetrable. Anything that touches the Inviso shield will be destroyed and its energy absorbed. There is one drawback to the Inviso system: it needs a constant supply of anti-matter to stay at full intensity. If you run out of anti-matter, then the Inviso will become inoperative until more anti-matter can be found.

The Discovery's energy absorption unit has been updated to feed the necessary anti-matter into the storage batteries for every 10,000 energy units collected. The Smart Bombs and the standard shields have not been changed and also are replenished every 10,000 units.

The latest technological development in hyperspace science has been the Stargate. It's an intelligent warp in space that is programmed to allow only Earth ships to pass through. The Stargate is also designed to send the ship to any Humanoid that is in distress. If the ship enters a Stargate and no Humanoid is in danger, it will then teleport the ship to the other side of the planet.

As discussed in the earlier document, the Humanoids have special psychic powers. They have the ability to survive contact with the Inviso Shield, so it is safe to catch a Humanoid with the Inviso on. If the Discovery is successful in saving four Humanoids and taking them on board the ship, then the craft can enter the Stargate and warp three attack waves ahead. For accomplishing this feat, the Humanoids will give you 2,000 units of energy. The Aliens become much more difficult to destroy in the waves after the warp. Another point of interest: If all the enemy ships are destroyed and there is a Humanoid falling to the ground, a 2,000 unit bonus will be given to you if you can make the catch and return him to the surface.

The Bomber was the easiest ship to destroy, so the Aliens changed its design completely. The Firebomber is one of the most elusive ships ever built, and is capable of shooting its bombs at your ship at a very high speed. The Firebombs can be shot down and will earn you 100 units of energy if hit. The best way to eliminate the Firebombers is to either Smart Bomb or activate Inviso and ram the enemy. Firing upon the Firebombers is very dangerous and requires several attempts to succeed. There are still a few Standard Bombers in the fleet, but these are still very easy to destroy. The new Firebombers are still worth 250 energy units as are the old Bombers.

The Lander design has been changed, but its attack pattern does not differ at all from the Standard Lander. The Mutant is also unchanged from Mutants previously encountered.

The Pods now have an updated version of the Swarmer. As a trade-off for the new Swarmers, the Pods are completely destroyed when smart bombed. The new Swarmers are three times more dangerous than the earlier version because the little ships go in random directions when released from the Pod. The Swarmers' tracking system is still unsatisfactory, so the earlier strategy continues to be most effective against this enemy. The best way to get past the Swarmers is to activate the Inviso and fly behind them. If you don't use the Inviso, then you run the risk of getting shot.

The best way to get rid of Pods is to smart bomb them because it prevents the appearance of the Swarmers. In light of the number of Pods you will have to defeat, it's a good thing there's a Pod intersection tracking device built into the scanner. When the attack wave begins, the scanner counts down the seconds until all Pods are within a few feet of each other. At this moment, you must be in the area and

activate the smart bomb. The Pods will then cease to exist and there will be no more Swarmers to attack you.

The Aliens have purchased a large number of craft from the Yllibian Star Empire, and these new craft have been identified as Yllibian Space Guppies, Dynamos, Space Hums, Phreds, Big Reds, and Munchies.

The Dynamos can launch Space Hums at the Discovery. Space Hums are guided missiles that follow your ship everywhere it goes. The Space Hums are very easy to kill, because all you have to do is just fly your ship beyond them, align your ship above the approaching missiles and fire your lasers. The Dynamos are easy to kill with the laser, but when you attack them they will release a large number of Hums. The Space Hums give 100 units for their demise, while the Dynamos provide 200 units.

The Yllibian Space Guppies are an advanced version of the Swarmers. The Guppies have a very sophisticated tracking system and can be very unpredictable at times. When confronted by Guppies, open fire and keep on firing until all are destroyed. Watch out for the Guppies' fire, though, because it isn't a standard weapon system. It is easy to make a head-on assault with a Guppy but be very careful, for it may turn around and suddenly veer off in another direction. The Guppies will give you 150 units of energy if you succeed in blasting them.

When reinforcements are called in, the Baiters will appear and begin their assault on your ship. The Baiters are somewhat slower than before, but still considered just as dangerous. The previous strategy of shooting them as they appear remains valid. The other reinforcement ships are the Phreds and the Big Reds. Both are large squares that will attempt to ram the Discovery. These enemies have no weapons, although they can create little Munchies to aid their attack. It's easy to shoot the squares, and if they get too numerous, then activate hyperspace or use the Stargate to lose these enemies. The Baiters produce 250 units, the Munchies are worth 50 units and the Phreds and the Big Reds generate you 200 units, once destroyed.

The number of attack waves has been increased to five. The first four are standard attacks, and the fifth is either a Firebomber Showdown or a Yllibian Dogfight. The Firebomber Showdown attack will appear on every wave number that ends with five.

The best way to survive a Firebomber Showdown is to wait for the Pod intersection and use the Smart Bomb. If you enter a Firebomber Showdown without any Smart Bombs, then may the force be with you (because you'll need it!). If there are any Firebombers left after your attack, then ram the enemy with your Inviso Shield.

The way to survive a Yllibian Dog Fight is to fly into a large group of ships with your Inviso operational. Proceed to fire upon the enemy fleet until they either run out of ships, or you become low on Inviso. Warning!! Do not use all the Inviso, because you never know when you may *really* need it! If you manage to survive this attack, then Mission Control will send you 2,500 energy units to help carry on the fight.

Regarding all other attacks, apply the same strategy utilized in the first battle with the Proximians. Rescue a Humanoid and keep him on board the ship. This way, all the Landers can't mutate. In the event that the asteroid explodes, wait until a Mutant is near your ship and then use the Inviso for just an instant. The Mutant should ram your ship and die on the Inviso shield. Repeat this method until all the Mutants are exterminated, then attack all other ships as previously disclosed.

When the Inviso is completely perfected, the attack between the Alpha Proximians and the Yllibians will commence. Until then, Good Luck! ⊖

GAMES LIBRARY

VIDEO GAMES—A WINNER'S GUIDE TO THE 12 HOTTEST COIN-OP GAMES

by Joyce Worley/Dell Purse Books/69¢

This how-to book has an interesting format twist: It measures just about 5½ in. by 3 in. That's the ideal size to tuck in the back pocket of your jeans. That's a nice plus when you want to carry a guide book to the place you need it most—the arcade.

The small size is matched by the tiny price tag. In an age when most paperbacks have alarmingly high price tags, you won't have to break open your piggy bank for this handy volume. And 69¢ isn't likely to put a serious dent into your game-playing budget, either.

But physical size and price are the only small things about the volume. It admirably lives up to the back-cover blurb: "simple strategies to improve your score." The modest claim is a refreshing change. Too many books promise the world (or, in many cases, the galaxy) and require a degree of study and memorization that could earn a Ph. D. This book promises easy tips that can lead to better scores—and it delivers.

The compact tome covers an even dozen of the most popular arcade games: **Pac-Man, Tempest, Centipede, Asteroids Deluxe, Berzerk, Donkey Kong, Frogger, Space Invaders, Defender, Scramble, Galaxian** and **Wizard of Wor.**

Each review is divided into segments. Taking the lead-off spot is a line drawing of the game's playfield. Underneath the illustration is a concise description of the game.

Objective is next. It explains what you're supposed to do—or try to do—in the game. Scoring covers just that, while Rules for Play details the physical workings of the game.

The heart of each game section is devoted to Strategy for Playing the Game, which presents easy-to-understand methods for success. Hints for Aces is a listing of very specific tips. They're generally simple, and include advice on which approaches are better for the novice or experienced player.

Finally, every individual guide concludes with a brief piece of advice. If the game is a tough one, it doesn't raise false hopes for easy mastery—for instance, it says frankly that *Defender* is "a very difficult game even for an expert." On the other hand, if a high score is merely a matter of practice, practice and more practice, it will say that, too.

Besides the excellent and useful game tips, the book has two other features. The opening chapter is refreshingly different from what usually appears in books of this type. Rather than covering general information about videogames that most people already know, it traces the games' history.

The games are explained very clearly. The reader may get the feeling that someone is talking him through the game. Joyce Worley, senior editor of **Electronic Games,** has a strong background in both playing and writing about videogames that allows her to communicate with the player with ease.

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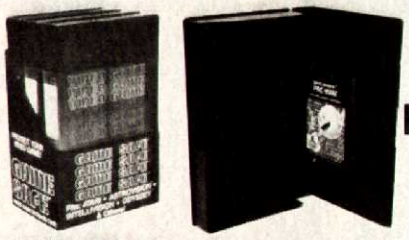

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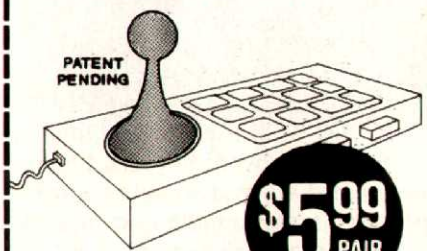

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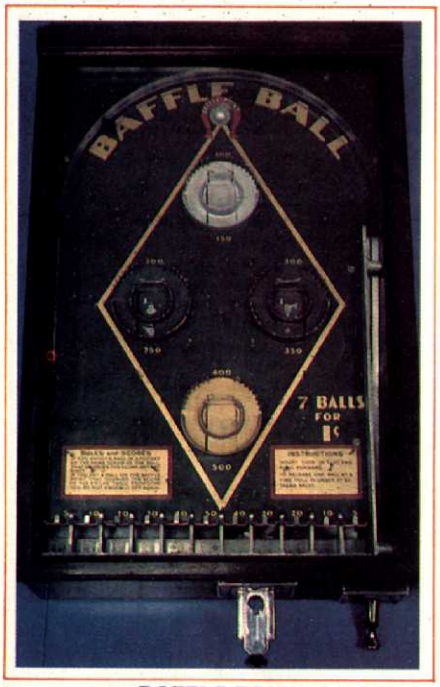
The History

Sixty Years of Coin-op Thrills

By ROGER C. SHARPE



BAFFLE BALL

For all its popularity and press clippings, video isn't the only game in town. Just as the on-screen marvels have changed over the years, the flipper games have also undergone a profound transformation. In fact, the evolution of pinball machines has been even more dramatic. But let's face it, video is the chic attraction that's captured the public's fancy. Although pinball has a richer heritage, and even predates Nolan Bushnell and his initial commercial success, **Pong**, it's still relegated to the background today.

However, it's not for the past of pinball that one should look at its present status. The existence of flipper games allowed video to leave the inner sanctums of computer company wizards who were content to create for their personal amusement. Even closer to the point is that pinball designers have embraced the technology responsible for the wonders of videogames resulting in some of the most ingenious coin-operated machinery ever manufactured.

Interestingly, pinball has been a victim of its own success. Throughout the more than 50 years the games have endured, change has never been undertaken just for the sake of change. The developments and refinements of the art have, instead, come slowly and methodically only when the paying public has demanded something more for its money.

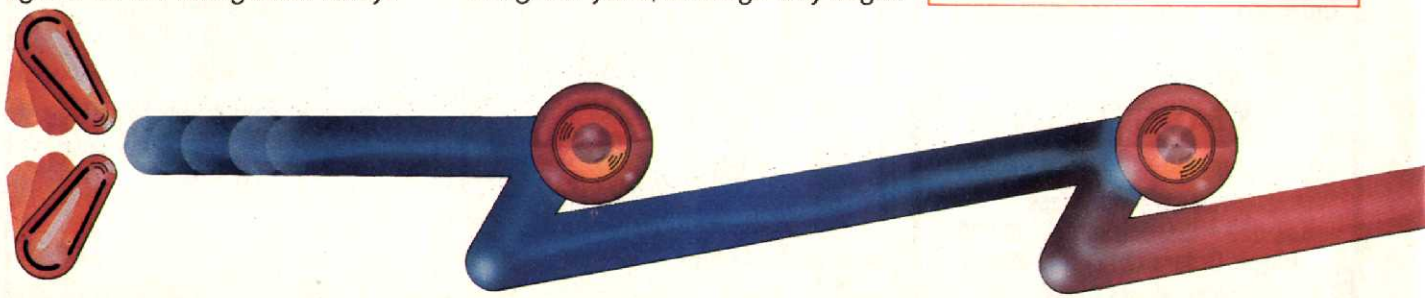
Looking back, one sees the breakthrough of Harry Williams, an industry legend still active today. In 1933, he astounded the multitudes with the first electrically-activated action on a playfield by means of the ancestor of the modern kick-out hole, as well as the first integration of sound into the play routine. The game was called **Contact,** and it opened a new chapter in the annals of pinball.

Except for some small modifications of the then-new technology, the various manufacturers altered little else on the surface of the games over the ensuing four years, although they began to utilize backglasses and playfield action incorporating as much of the existing mechanical gadgetry as possible.

The year 1937 proved to be a notable one thanks to the inventiveness of Bally game designer Nick Nelson, who gave pinball added movement by creating the first bumper for a game entitled **Bumper.**

Even with the steady progress, ten years would pass, with a forced timeout in production during World War II, before a truly dramatic event took place that forever changed the face of pinball machines and propelled them into the future. The man responsible was Harry Mabs, a designer at Gottlieb, who thought he could mod-

BALLYHOO



# of Pinball

CHICAGO EXPRESS

ify the action of the bats in the old baseball arcade games and utilize it on pinball machines. The rest was history. We added 'flipper bumpers' to a game called **Humpty Dumpty** which, for the first time, provided the player with more control over his fate.

There was suddenly a new skill element in the games far greater than what had been previously possible. Besides the obvious adjustments players had to make, game designers were also forced to rethink the placement and functions of the basic playfield features. It was a revolutionary step in the history of pinball, which had become the main attraction of the still-developing and growing coin-machine industry.

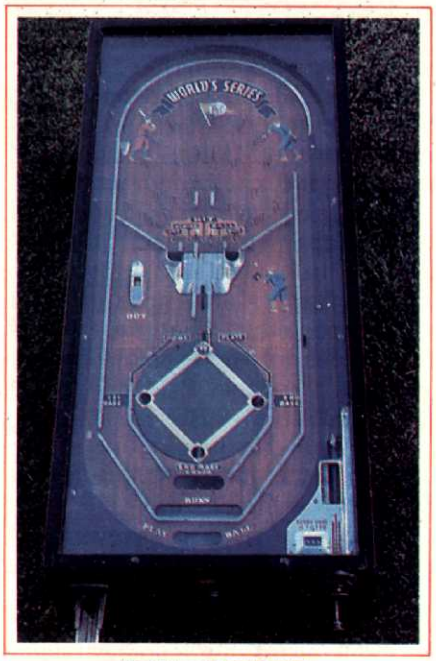
Other, more subtle, changes were also taking place. Backglasses, where scoring had been imaginatively and colorfully displayed, were updated with the inclusion of numbered drum units that kept track of point totals; the flipper was refined to a point fairly close to the present version and the drop target was born.

The tinkering continued. Another, although some would say less vital, part of the games, was the rise of pinball's distinctive artwork thanks, primarily, to the efforts of Roy Parker. The industry believed then, and still holds today, that exciting artwork on the backglass attracts players to a machine while exciting action on the playfield holds them. If that credo is valid, then, Parker must have been responsible for a great many players noticing the newest games.

Working for Advertising Posters, a firm that did most of the graphics for the coin-machine industry and is still active today, Parker lent his artistic touch to a number of games in the Forties, and especially the Fifties, which stood apart from the norm. Primarily laboring on Gottlieb efforts, his humor, wit and grace made the machines easy to look at and hard to forget. They were visual stories, one-panel displays, which often held a past, present and future, but were more a measure of his satirical, almost comic-bookish outlook on life. The themes he chose were often outlandish, and the unique style by which he conveyed them still stands as a benchmark in the history of pinball art.

But more than just the artwork was changing during this period. The industry had begun to solidify. The dozens of companies which had survived before the war gave way to the few strong manufacturers who could meet the increased costs of producing equipment and the ever-growing demands of players. Where once there were many, only four remained to carry on the legacy. Some had been around since the beginning, one was a new creation ready to cash in on what was seen as a potential boom time.

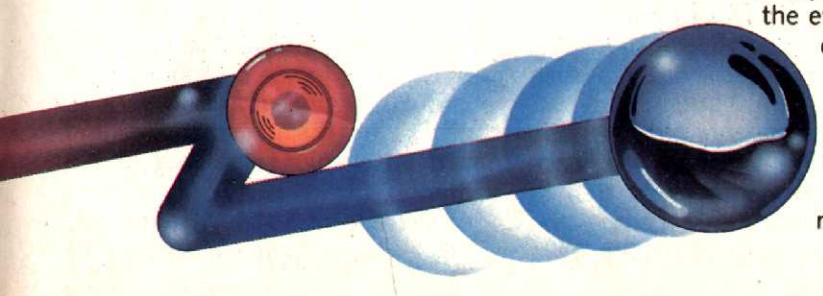
The newcomer was Williams Electronics, the creation of the venerable Harry Williams, who was ready to do competitive battle with Chicago Coin, D. Gottlieb & Company and the Bally Manufacturing Corporation. Their combined efforts would lead the way through a period of transition, with the resulting equipment, in many ways, reflecting the basic nature of each company.



WORLD'S SERIES

In the years that followed, Williams made games which were recognized for their fast-paced action, Bally tended to try for the novel and different approach to design, while Gottlieb machines were often viewed as being the fairest for the average player. As for Chicago Coin, it predominantly tried to emulate the other companies, borrowing bits and pieces.

The games of that era might, admittedly, seem simplistic by current standards. Yet this was the period during which slingshot kickers, spin-



BIG HORSE

ners, drop target banks, moving targets, vari-targets, up-posts and thumper bumpers, as well as numerous other additions, graced the playfields and captivated pinballers. Titles included such standout efforts as Bally's **Capersville,** which in 1967 brought multi-ball play into being, Chicago Coin's **Gun Smoke** in 1968 with its special button on the front of the cabinet for extra point scoring, Gottlieb's six-flipper **Paul Bunyan** in 1968 and Williams **Suspense** featuring a small roulette wheel under the playfield which worked in tandem with the action on the board.

By the early 1970's, however, pinball's golden age was in full tilt. In fact, many individuals within the industry, as well as players who were active then, still regard this period as one of the most memorable in terms of game design. Even the passage of time hasn't really diminished this view. First and foremost is Bally's **Fireball** (1972), considered by some as the quintessential pinball machine, with its startling artwork, multi-play ball, zipper flippers and spinning, center field disk. Other singular efforts included Gotllieb's **Sheriff** which was originally released in 1971, but proved so successful that the company went back and made more in the following year, and Williams' **Travel Time** produced in 1973 and, although not exceedingly well-received, was a game based on time where the player worked against—or with—the clock to keep the machine alive.

Even with all of the advancements in design, the majority of pinball machines were basically the same, yet to feel the impact of the first videogames and the technological capabilities they brought to the coin-machine industry. Instead, one found Bally's **Wizard** in 1975, which represented a breakthrough with its tie-in to the movie *Tommy* the same year, Chicago Coin's became to Stern Electronics as new owners tried to resurect a company that had fallen on hard times. But pinball wouldn't remain dormant for long.

Interestingly, pinball manufacturers viewed the potential application of solid-state electronics less from a standpoint of natural product development and more in terms of cost, since electro-mechanical equipment continued to increase in price. What were to be the ultimate benefits to the players would be a factor that needed years to be appreciated. Instead, the new technology was methodically studied and evaluated before any one company would commit itself to the necessary changeover.

Two exceptions to this rule were Allied Leisure and Mirco Games, which were willing to take the risk and lead the way into the future. In 1975, the Hialeah, Fla.-based Allied Leisure introduced the world's first hybrid pinball machine. **Dyn O' Mite** featured both solid-state and electro-mechanical components. The only real visible difference to players was the LED scoring displays in the backglass and a far different breed of sound effects on the playfield. A few months later, Mirco Games of Phoenix unveiled its totally electronic **Spirit of '76,** and one could sense that the rules were changing, and there would be no turning back to what had been before.

Although Mirco quietly faded into oblivion, Allied Leisure was to follow up with a few more efforts only to succumb to the power of the prevailing Big Four, who were quickly testing their own systems in a race to capture the spoils and die out along with a technology whose days were numbered.

Having been a dominant, aggressive and innovative force in the mid-1970's, Bally first tried some electronic versions of **Bow and Arrow** in 1975. It refined the art on subsequent models which were produced in dual runs such as **Freedom, Night Rider** and **Evel Knievel** before truly tapping the capabilities of solid-state on a landmark machine called **Eight Ball** in 1977. This unit featured memory and recall for total play continuity on a

7-UP

multi-player game. Its resulting success as the company's largest production-run model proved that a new age had indeed arrived.

At Williams, where **Space Mission** in 1976 had propelled the manufacturer back into the spotlight, efforts began to integrate electronics with a game called **Grand Prix.** It took another year, and the release of **Hot Tip** to really usher in solid-state. Last on the scene was Gottlieb. It broke the ice with **Cleopatra** at the end of 1977, and followed it with **Sinbad,** which became the company's all-time best seller.

Despite all of the progress, videogames suffered a brief setback when the repetitiveness of themes and action began to turn off more players than were being turned on by the screen gems. Then *Star Wars* hit, and the coin-machine industry had suddenly found its savior. Although video would be the immediate beneficiary of the historic event, pinball wasn't to be left out in the cold.

The groundswell had once again begun, marked by video's resurgence due to the further application of programming innovations. Pinball manufacturers looked to better understand the existing technology as well as broaden appeal by courting a far more sophisticated audience than had previously been known. One company better known for its contributions to video, Atari, saw an opportunity to capitalize on the pinball boom and ended up changing the face of the games.

At the end of 1976, **Atarians** was

Continued on page 78

VIDEOLIVERY

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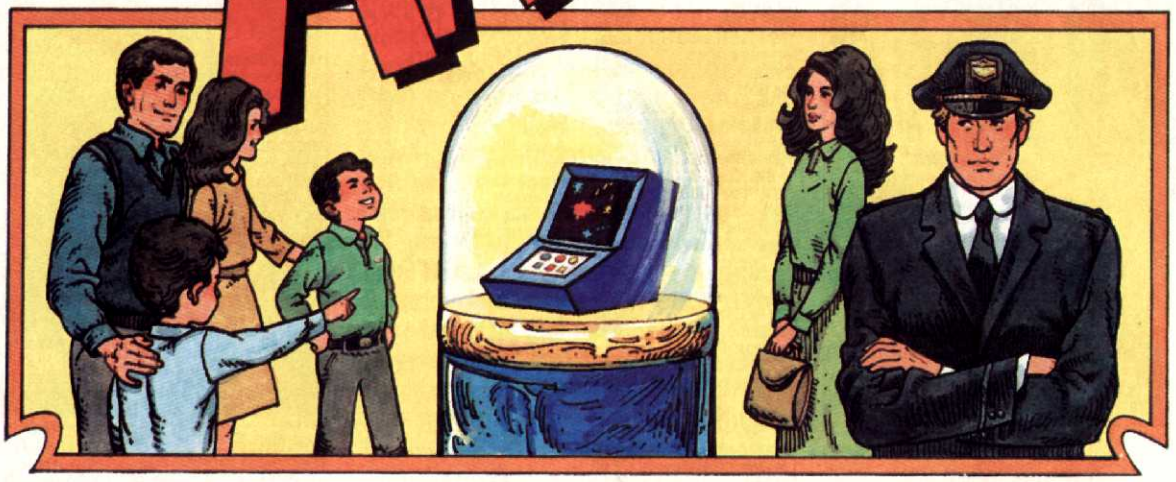


Software for the Entex Select★A★Game

By JOYCE WORLEY

BASEBALL 4 CARTRIDGE

*Select*A*Game Machine/Entex/$18*

When your mind is on baseball, but you can't make it to the ballpark, Select*A*Game has good news for you! **Baseball 4** will provide at least some of the action you crave, right in your own backyard!

The color overlay that comes with *Baseball 4* provides the playing field and scoring window, including the game diamond, foul lines, on-deck circle, and pitcher, fielders and outfielders. Scoring information shows the status of balls and strikes, outs, the inning, and runs scored. *Baseball 4* can be played by a single gamer, always at bat against the computer's fielding team, or by two players in a one-on-one contest. Two skill levels are available. At the top setting, the pitches have greater velocity. If desired, a handicap feature improves the batting average of the arcader's entire team.

Baseball 4 utilizes a playfield measuring 1½ in. by 3 in. The green overlay suggests that nice grassy look. The visiting team is represented by red dots, and the home team by blue. A thrown game is brilliant orange. Animation is by simple dot-matrixing. The game begins with a chorus of "Take Me Out to the Ball Game", and arcaders can relax to the game tune during the seventh-inning stretch. A special fanfare signals each run scored.

Select*A*Game gets a lot of use out of the machine's control system in this cartridge. Gamers choose mute or sound play and skill levels 1 or 2. Game 1 is always used unless the visitor's team wants to use all pinch-hitters; in that case, select Game. 2.

The team at bat employs the left control panel, while the defending team selects different pitches on the right control panel. Human managers change positions, or turn the game unit around, after each half-inning.

Pitching uses six control buttons. He can throw a change up (slow delivery), slider (a delivery that curves to the top of the screen at the last moment), fast ball, or a knuckle ball that works with any of the three slow pitches to create a large variety of patterns that are super-difficult to hit. The final pitching control is a steal defense. If the team at bat has a man on first and tries to steal second, pushing the button at the correct time

throws the runner out at second.

The batter uses four control buttons. The manager may call for a pinch hitter by pressing the button prior to the player entering the batter's box. The slugger can try to hit or bunt. It takes practice to develop exactly the correct timing, but as the arcader's skill improves, so will his batting average. The fourth control allows a runner to try to steal second base.

The infielders are strung across the middle of the diamond, rather than being at their positions, and when a ball is hit, all fielding lights blink in rotation before settling to the one that stays lit.

In the solitaire mode, there is no pause between plays. The pitcher keeps throwing the ball until the team at bat strikes out. As with the infielders, the plays do not happen precisely where you would expect them to be located on the unit. The ball actually comes from second base, instead of from the pitcher's mound.

The computer has a couple of controls that add reality to the game. If a man is on third base with less than two outs, the man on third scores on a sacrifice fly if the ball is hit to the centerfielder. Double plays are also computer controlled. If a man is on first, and there have been less than two outs, a ball being hit to second causes a double-play. Both the batter and the runner are out. On the other hand, all outs are caught on the fly, so runners don't advance unless forced to do so.

It takes 5 to 10 minutes to play a solitaire game, and double that for a one-on-one contest. This can be time well spent if you're hunting for a summer diversion in miniature form.

PINBALL CARTRIDGE

*Select*A*Game Machine/Entex/$18*

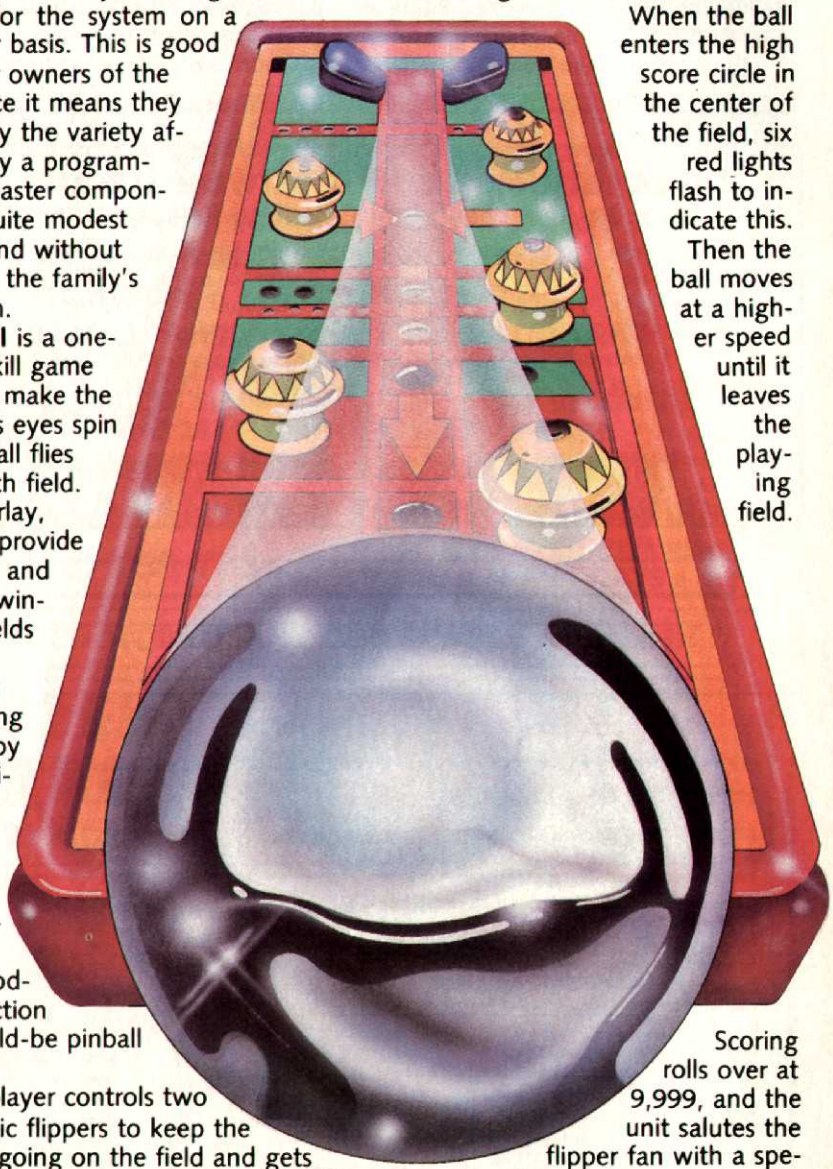
The Entex Select*A*Game is a high-quality mini-programmable unit retailing for around $65. It works with cartridges similar to those used with videogame units, while overlays on the playfield provide the playfield characteristics for the specific cartridge in use.

The hand-held has a large (3½ in. by 4 in.) fluorescent screen, but different games utilize varying amounts of this space. The unit features striking two-color displays against the velvety black playfield. A fluorescent digital scoreboard keeps track of each player's tally.

Select*A*Game comes packaged with **Space Invader 2** cartridge and overlay. The unit is thoughtfully designed so that two people can sit across from one another and manipulate the seven buttons that allow each player to control the action. When solitaire play is desired, the computer will act as a worthy opponent on each competitive game.

The folks at Entex Electronics have told **Electronic Games** that they are totally committed to supporting Select*A*Game by releasing new cartridges for the system on a a regular basis. This is good news for owners of the unit, since it means they can enjoy the variety afforded by a programmable master component at quite modest prices, and without tying up the family's tv screen.

Pinball is a one-player skill game that will make the arcader's eyes spin as the ball flies around th field. The overlay, used to provide the field and scoring window, yields a usable playfield measuring 1½ in. by 3 in., minus the scoring display. This tiny rectangle holds oodles of action for would-be pinball wizards.



The player controls two electronic flippers to keep the motion going on the field and gets fives balls shot one at a time. Each sphere rolls freely around the screen, crashing into various bumpers and scoring pockets, until it then passes out of the display. The flippers can be used individually or simultaneously to keep the ball in play, but beware of moving them too rapidly or the game will tilt! The flippers' location on the field is identified by a red dot. When activated, this extends to three parallel dots that shoot straight out from the sides of the screen. Since the flippers are actually an electronic impulse, and not solid matter, they cannot hold a ball. If the ball strikes them when they are already extended, it will pass right through the red dots, so the arcader must accurately time his use of the flippers.

The ball is bluegreen, until it hits a scoring pocket, when it momentarily flashes red. The flippers are brilliant red, and the entire effect is rather dramatic against the dark screen. When the ball enters the high score circle in the center of the field, six red lights flash to indicate this. Then the ball moves at a higher speed until it leaves the playing field. Scoring rolls over at 9,999, and the unit salutes the flipper fan with a special fanfare. The scoreboard flashes the final tally when the game ends.

Pinball has nice action, and its various skill levels provide challenge for players of differing degrees of talent. The only real flaw in the game is that it could use a nicer overlay. The designers could have dolled it up with a little artwork to give the feel of the beautiful arcade machines. But the action is good, the sounds are pleasant, and this cartridge packs a lot of whollop in a tiny package.

HISTORY OF PINBALL

Continued from page 74

introduced and brought a new shape to pinball with its "wide-body" cabinet. The playfield and scoring displays weren't in the backglass, but just to the right of the left flipper button. This was followed by five more games. The company's last was **Superman,** which helped to spawn a generation of imitators including Williams' **Contact,** Bally's so-called "super-size" **Paragon** and Gottlieb's **Genie.**

However, it wasn't a new shape or size that pinball players wanted, but rather more playfield action and visual excitement for their quarters. Williams gave it to them in 1979 with **Flash** which departed from the norm in conventional game design. There was a center entry for the ball from the plunger, compelling sound effects that seemed to wrap around the player and a blue crescent on the middle of the board which flashed when the ball hit the appropriate targets. It was a total package, and the industry took notice of its impact on the players.

Consistent with what had been, and still is, the cyclical nature of the business, pinball was suddenly hot and Williams was more than ready to keep the ball rolling. It brought speech to pinball with the release of **Gorgar.** Then Steve Ritchie, the designer responsible for *Flash,* who had started in the industry with Atari before moving on to a situation that afforded him great freedom and ultimate success, took the games to the next stage with **Firepower.** This table not only utilized speech, but also resurrected multi-ball play and added in a subtle touch, the right flipper controlled lane change at the top of the board.

Rather than getting caught with their flippers down, the pinball producers shifted into high gear to stay competitive and further advance the games. With the new decade, there also seemed to be a renewed energy to improve pinball, especially since videogames were becoming an ever-growing rival for the public's favors. Stern Electronics introduced **Big Game,** which featured seven-digit scoring on the backglass. It was larger than conventional games, but in proportion, as compared to the squarer, wide-body machines. Gottlieb followed with a new generation called "Series 80" games, which also gave more space on the board and a hoped-for increase in the variety of options for playfield features.

While much of the emphasis was focused on better understanding and utilizing the electronic technology, pinball players were about to be taken to another level of excitement and challenge. At the end of 1980, Williams unveiled the next Steve Ritchie creation which broke many of the prevalent barriers regarding design and programming.

Black Knight is an incredible machine which offered a double-level playfield, multi-ball play, an extra set of buttons on the side of the cabinet for activating a "magna save" feature at the bottom of the playfield. This used magnets to potentially hold a ball in one spot and give the player a chance to salvage what might be a lost ball. In addition, there was a "last chance" feature on the final ball in play which, when activated, could continue a player's turn even if the ball drained. Finally, *Black Knight* boasted a bonus ball feature at the end of a game when more than one player was doing battle against the machine, which gave the highest scorer a chance at a timed limit of multi-ball play for additional points.

The game was a breakthrough and

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gave hope to the four pinball manufacturers that maybe the machines could regain some of their former glory by focusing all efforts in this new direction. Bally served up **Xenon** with multi-ball action, a new, elevated tube across the playfield and female speech as an added touch. Stern came out with its own version of multi-ball play, **Flight 2000**, and then a new twist to a multi-level game with **Freefall.** Gottlieb was last to enter into a whole new ball game with its multi-ball **Force II.**

There appeared to be no limit to the possibilities of what basic pinball machines could offer. Cosmetic changes were staggering, with speech, a wider variety of sound effects, a more expansive use of lights even when a game isn't being played and graphics which reflected a contemporary feeling without inhibiting the use of the double panel backglass introduced by Bally and later featured on Gottlieb games.

The progress in game design continued, marked by Gottlieb abandoning its traditionally conservative approach and throwing caution to the winds with successive machines which broke still newer ground. **Mars** brought together multi-ball play, an elevated tube across the field and strong graphics, as well as a staggering assortment of sights and sounds. **Volcano** came out in the summer of 1981, and players had multi-ball action triggered from a trap door in the playfield as well as some innovative features placed around the board. But it was the third in the series that would set itself apart from the rest. **Black Hole** took multi-level and multi-ball play, threw out the previous rules, and wound up with a reversed playfield *underneath* the main field. And to show it could even go one better, Gottlieb took the concept and added a third level above on **Haunted House.**

These embellishments to basic pinball were, unfortunately, hardly noticed by the throngs waiting to play their favorite videogames. Many of the nuances and subtle touches were lost on the masses. Now the tide has begun to turn due in no small part to the strength of flipper games and the diversity of attractions provided by the newest ones.

This year has already given rise to a dizzying spectacle of innovative creations which are garnering attention and excitement the world-over. Take Gottlieb's **Caveman,** which incorporates the play of pinball and videogames in one machine. Its unique cabinet design features a television screen on the field complete with its own joystick control. Bally has countered with its last spring release **Mr. & Mrs. Pac-Man** featuring those beloved characters on a pinball machine which also utilizes a maze at the center of the field with action similar to that of the classic videogame. Last but not least, is Stern's first in a proposed series of three-dimensional molded plexiglass playfield pinball machines featuring a board of rolling hills and valleys as well as action that's not to be believed until you've tried **Orbitor I.**

Pinball is just waiting to be discovered, by those adventuresome enough to try their hand at the newest old game in town. The challenge is still there, along with that unique unpredictability of action that truly tests a game player's reflexes and concentration. So for those who have never tried the flip side of coin-machine entertainment, pop for the quarter or fifty cents and see what you've been missing. And if you've been a regular player of pinball, get ready because the best is yet to come.

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You'll Flip Over This Strategy Game!

OH, OH,

By JOYCE WORLEY

What's the best two-player strategy game that's simple enough to learn in five minutes? Forty million **Othello** players can't be wrong. At least that's the estimated number of enthusiasts who would suggest their favorite game as the answer to that question. Actually, no one knows how many people enjoy the disc-flipping contest. Like checkers and chess, it seems that almost everyone has played some version of reversi at least once. Also like checkers and chess, many of those who learn the simple rules go on to become fanatically involved in this game.

Just as no one knows the number of players, the origins of the game are also lost. Reversi is now at its all-time peak of popularity, yet it did experience an earlier vogue about a hundred years ago in England, according to George Sullivan, editor of *Othello Quarterly,* the official publication of the U.S. Othello Association. Sullivan says that there were two different men in the mid-1800's who claimed to have invented the game—a most suspicious testimony! It seems more likely they each rediscovered the game, and that reversi's actual invention lies much further back in history. No one really knows.

Reversi is played on a 64-square board, with pieces that are black on one side and white on the other. Players choose between two opening setups, using two discs of each color. These are arranged in an "x" pattern, or the black and white pieces can be placed side by side in the center of the board. Each contestant places his marker to flank at least one of his opponent's tokens. Any disc surrounded in this fashion is flipped over to reveal the contrasting color. Play continues in rotation, and the player with the most pieces in his color at the end of the game is the winner.

In the traditional form of the game, each player got 30 of the two-sided discs. If one ran out of discs and was unable to move for this reason, the game went to the opponent.

Reversi was refined and altered in 1973 by Japanese inventor Goro Hasegawa. His creation, copyrighted by Gabriel Industries, removed the anomalies of reversi and the new game, *Othello* became a household word in over 100 nations. At least ten million gamers in this country have played *Othello* since its introduction in the United States in 1976.

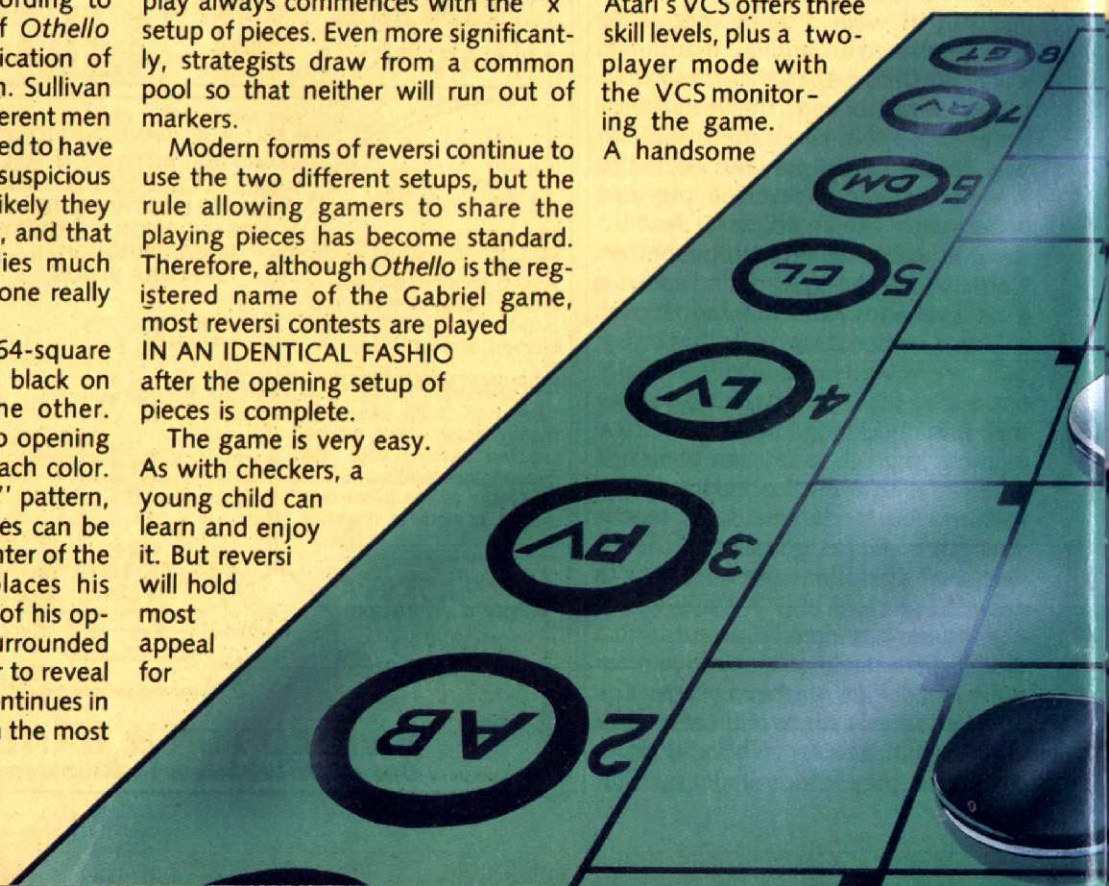
The differences between traditional reversi and *Othello* are slight, but very meaningful. There are two of particular importance. In the modern game, play always commences with the "x" setup of pieces. Even more significantly, strategists draw from a common pool so that neither will run out of markers.

Modern forms of reversi continue to use the two different setups, but the rule allowing gamers to share the playing pieces has become standard. Therefore, although *Othello* is the registered name of the Gabriel game, most reversi contests are played IN AN IDENTICAL FASHIO after the opening setup of pieces is complete.

The game is very easy. As with checkers, a young child can learn and enjoy it. But reversi will hold most appeal for the more mature player. The strategic possibilities are as limitless as chess and take just as long to master.

Since reversi can be played by people of all ages and varying skill levels, sometimes it's hard to find a suitable opponent—one who can match wits against the gamer without being bowled over, while at the same time not outranking him so badly that there's no real competition. Sometimes players in the same family can be so severely mismatched in ability that the game is too uneven to be fun. Even in those situations where the gamer has a suitable opponent, he may want to practice and hone up his skills before a match. The computerized *Othello* and reversi games are the answer to this dilemma.

The *Othello* game program for Atari's VCS offers three skill levels, plus a two-player mode with the VCS monitoring the game. A handsome

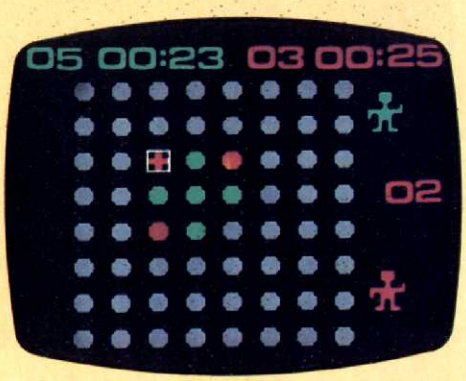


OTHELLO!

64-square board fills the screen, and the player manipulates a cursor with his joystick. Colors of pieces are changed automatically when flanked, removing all the manual labor of flipping markers. By setting the right difficulty switch into the "B" position, white moves first. Since the computer plays black, this gives an advantage to the human player, if the extra edge is needed. When two humans are competing, the VCS referees the game and keeps track of the score. As an additional bonus, the game can be put into a setup mode, to work out specific problems.

The beginner level is simple enough for anyone to have fun, and the intermediate version is only slightly more difficult to play. The most advanced setting is actually not very hard; even an average player will soon be winning games against the computer. The Atari *Othello* cartridge was characterized by George Sullivan as being more for entertainment than real challenge. Yet it's a pleasant way to pass a little time, and a good way for VCS owners to get involved in the game.

Odyssey calls its reversi cartridge **Dynasty!** and has described it as a descendant of the ancient Chinese strategy game of **Go!** Here again, arcaders can challenge the computer, or two gamers can play heard-to-head while the Odyssey² monitors and keeps score. *Dynasty!* offers only one level of play, but gamers desiring to up the challenge can set a time limit for each move. Here again, this version of reversi is more for fun than stiff competition.



DYNASTY

Dynasty! has a variant game on the cartridge that is tougher to conquer. **Directional Dynasty** allows players to capture opponent's pieces in only one direction per move. The gamer must choose which row of markers will be flipped. This changes the entire strategy of the game, making it much more difficult.

Serious strategists will find greater challenge in one of the more advanced

FIDELITY REVERSI

programs available in stand-alone units. The excellent self-contained machines are more difficult to defeat simply because they apply more brain-power to the job of analyzing the board.

One of the finest units on the market is Fidelity's **Reversi Sensory Challenger.** With 18 skill levels available, even a master player can find an opponent to match wits against. The *Reversi Sensory Challenger* uses magnetic playing pieces on a sensory board. Each square contains a brilliant red LED. Pressing a disc onto the desired square of the sensory playing surface registers the move and flashes the squares of the pieces to be flipped.

The *Challenger* boasts many special features which provide great flexibility for the player. "Position Verification" makes certain all the pieces are correctly placed. "Display Move" gives hints to the human player, and the "Reverse" key takes back erroneous moves. Gamers can set up problems, or change sides with the computer. The *Challenger* provides for audio or silent play, and of course will monitor a game between two humans.

But the real story with the *Reversi Sensory Challenger* is the strength of its computer program. At top levels of play, it can defeat a champion, even while providing good entertainment for less skilled players at lower settings. The unit, the most beautiful reversi player we've seen, sells for around $150.

There is only one portable computerized player, but it's a dandy. Gabriel's **Othello** is a self-contained game that's small enough to carry wherever you go. Half of the unit holds an LCD display of the board, and the other half contains the controls. *Othello* has eight skill levels, and the expert mode is strong enough to provide challenge even for a serious gamer.

The controls are simple. The player enters the coordinates of the square on which he wants to place his marker, and the computer does the rest, displaying the discs on the LCD screen and automatically changing the color of any affected by the move. The need for playing pieces is completely eliminated, together with the manual labor of flipping and reflipping the flanked markers.

Gabriel's *Othello* comes in a functional steel housing that protects it when traveling. Selling for around $120, this is the unit for the enthusiast who always wants to have a good opponent with him wherever he may go traveling.

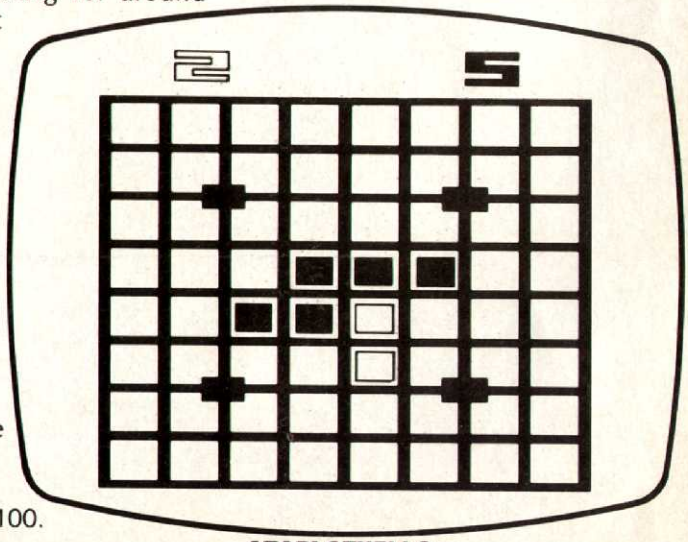
Applied Concepts' *Great Game Machine* also offers a reversi program called **Odin.** The *Great Game Machine* is a programmable unit selling for $229.95, and cartridge for around $100.

Owners of microcomputers have not been forgotten. One of the best programs available is from Hayden. **Reversal** was created by the champion design team of Dan and Kathe Spracklen, and has three modes. Gamers can challenge the computer, set up a particular board to work out problems, or play against another human with the computer monitoring. Computerists take either black or white, and are given the choice of beginner, intermediate or advanced play. If the gamer chooses advanced play, he selects among nine levels of skill. At its peak, the computer becomes a championship-quality opponent worthy of the finest strategists.

Another fine program for the microcomputer is **Iago,** designed by Steve Cheng, for DataSoft, Inc. *Iago* plays at seven levels, and the gamer can choose to move first or second. Instead of black and white discs, *Iago* uses "X" and "O", but in all other respects operates the game as the other reversi programs. Enter the two-digit number of the square you wish to occupy, and *Iago* takes care of the rest. As an additional help, *Iago* displays the square number of each available space in which a legal move can take place.

Whether it's for the microcomputer, the home videogame, or one of the fine stand-alone units, reversi is an appealing game that keeps players flipping their markers in this contest of wits.

Enthusiasts can join the United States Othello Association where a $5 membership fee brings a year's subscription to the OTHELLO QUARTERLY, plus information on all tournaments and a ranking with the national association. Contact USOA, P.O. Box 342, Falls Church, Va. 22046.



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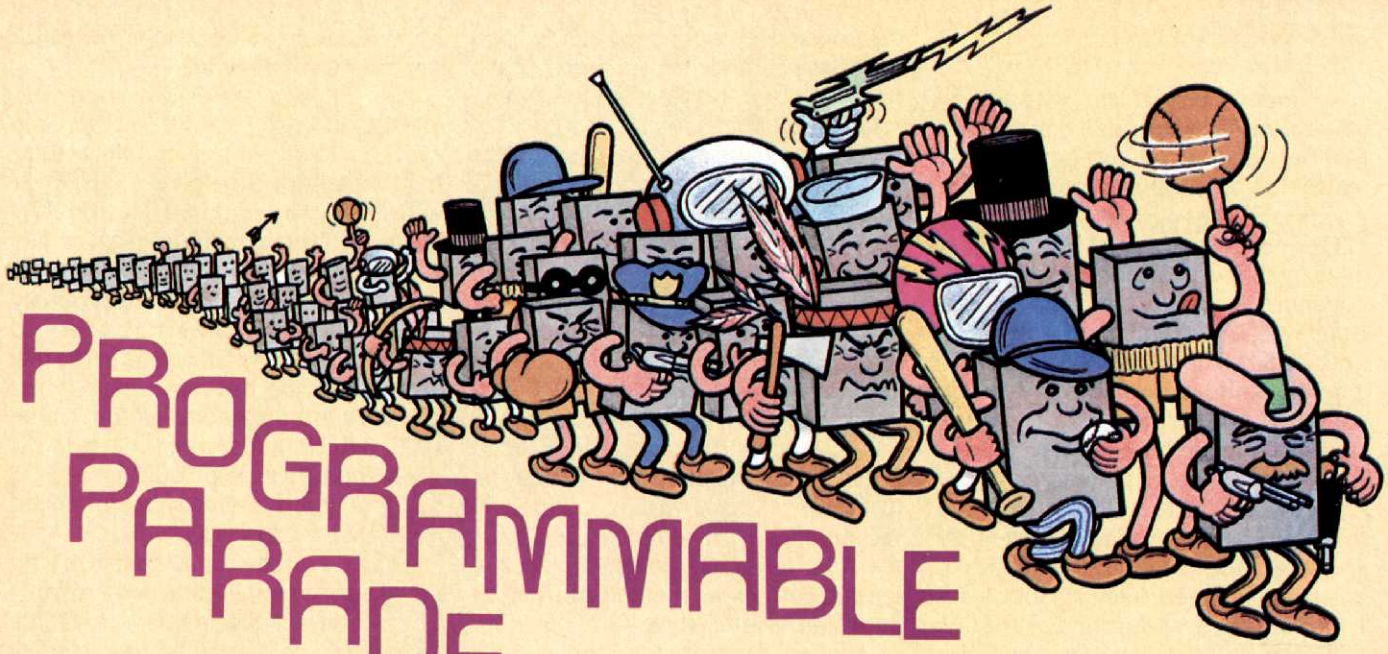


PROGRAMMABLE PARADE

By Arnie Katz and Bill Kunkel

Three, Three, Three Games in One!

TRIPLE ACTION

Mattel/Intellivision

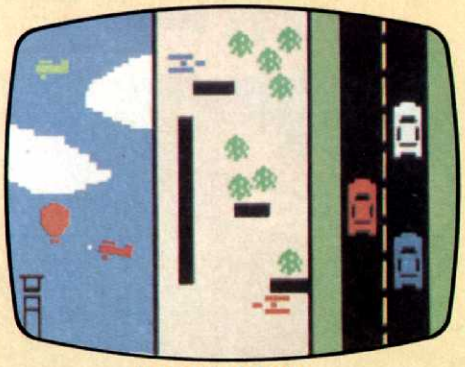
Everyone knows that there has always been a scarcity of arcade-action games for the Intellivision system. Mattel has tried to erase this lack during the last year or so by releasing a series of such contests. Some, like **Astrosmash,** have caught on pretty well, while others such as **Space Armada** (an invasion game) were not completely successful.

Triple Action falls somewhere between these extremes. The tank, car race and airplane games included in this cartridge will not set high-water marks for design innovation or quality graphics, but all are solid, basic games previously missing from the Intellivision library. Getting them all on a single ROM cart without paying a premium price makes this an excellent value for Intellivisionaries.

Selecting the desired game and options is simple, thanks to *Triple Action*'s menu-driven system. Using one of the keyboard controllers to input choices, a player first punches the number of the desired game.

Battle Tanks then lets the player choose one of four types of ammunition: long-range bouncing shells, short-range bouncing shells, long-range non-bouncing shells and short-range non-bouncing shells. The latter two make it possible to hide behind the various trees and buildings that dot the screen, while the former pair endows *Battle Tanks* with a **Pong**-like quality. The first tank commander to score 15 points wins the battle.

The object in **Car Racing** is to drive



TRIPLE ACTION

100 miles (simulated) in the fastest time as measured by the on-screen clock. One or two players, each on a separate course, weave in and out of traffic, trying to keep speed high while avoiding time-wasting collisions with other vehicles. This traffic, depending on the option selected at the start of the game, can be either light or heavy. Naturally, the more cars that clog the road, the more video drivers will have to use the lower action button on the controller to slam on the brake.

Bi-Planes, another two-player competition, rates as the best of the three games on the *Triple Action* cartridge. The object is to be the first to score 15 points by shooting down either the enemy aircraft or the balloon that periodically ascends from the center of the screen—while not letting your plane plow into the runway.

Flying can be a little tricky. The airplane takes off when the arcader presses one of the lower action buttons and the top edge of the direction disk at the same time. Attempting to climb too fast will cause the craft to stall and crash, though failure to maintain sufficient airspeed will prove just as lethal. If you see your bird about to drop out of the sky, the best move is usually to point the nose down by pressing the bottom segment of the disk.

The type of action this cartridge provides will probably not strike owners of other videogame systems as something new. But for the Intellivision owner who wants a rest from the sports simulations that are this unit's bread and butter, *Triple Action* is a sensible purchase.

SPACE JOCKEY

Vidtec/Atari VCS

So many companies are hopping aboard the VCS cartridge bandwagon that the debut of yet another software maker for the popular standard programmable videogame system is no longer, by itself, worthy of banner headlines. The sheer novelty of an independently produced game for the Atari VCS is wearing thin. It certainly isn't enough to guarantee that the gaming world will greet a new title with a warm reception.

U.S. Games, the company behind the Vidtec name, is pinning its hopes for a quick start in the videogame software business on **Space Jockey.** By and large, the manufacturer's faith in this space-themed scrolling shoot-out appears to be well-justified. Although this gem isn't flawless, *Space Jockey* delivers the fast action and sweeping movement characteristic of the best of the scrolling contests.

This solo cartridge puts the player in command of a well-armed and highly maneuverable flying saucer. It's a good thing this ship can really scoot around the screen in response to the prompts from the joystick, because there is no shortage of enemy attackers zooming into view from the right edge of the screen to challenge the lone craft.

Jet planes, propellor planes and tanks are the three most important targets, worth 100 points each when destroyed. Helicopters score 50 points, balloons count for half as much, and a house or tree increases the arcader's total by 20 points.

The two kinds of planes, the 'copter and the tank, don't just hover conveniently while waiting for the player to eliminate them. They fire fast and true. Space gunners will have to do their aiming on the run, because a saucer that stays in the same horizontal plane as its target for too long is awfully likely to go down in flames from return fire.

The balloons are defenseless, but they can force the saucer's skipper to execute some fancy flying maneuvers to evade a round-ending collision in variations 9-16. The houses and trees are little more than decoration for the ground landscape. It might have made things more interesting if hitting either subtracted 20 points from the gamer's score as a penalty for blitzing civilians and Mother Nature.

The big problem, however, is that the saucer can race through the first 20,000 points of what is intended to be a low-scoring game by just sticking to the lower left corner of the playfield. From this vantage point, the player can fire continuously with an excellent chance of sweeping aside everything in the ship's path. The game's designer clearly erred in not making contact between the saucer and the ground as lethal as a head-on crash with an enemy craft. The best way to remedy this defect is to put the left- and right-hand difficulty switches in the "up" position. This gives the computer-controlled forces a quicker first shot and the ability to fire faster. That way, a tank has a decent chance of getting off at least one salvo before the attack saucer goes for the kill.

The graphics aren't any more detailed than the typical VCS-compatible cartridge, but they're certainly cuter than most. The little planes with their whirling propellors are especially charming, though they aren't a bit less deadly.

The best of the variations is probably #15. It gives the saucer the ability to move horizontally as well as vertically, while balancing this moving of enemy ships in a more random fashion. Game #16, which adds steerable bombs, gives the saucer pilot quite a helping hand. A good player shouldn't need quite that much help.

Space Jockey is a fast-moving arcade-style contest that will probably be most attractive to gamers who pride themselves on superb hand-eye coordination. It'll never quality as a "heavy think" strategy game, but it sure is fun!

CHOPPER COMMAND

Activision/Atari VCS

The use of fast attack helicopters to seize local air superiority over the battlefield area is a major tenet of current U.S. military strategy. Designer Bob Whitehead gives electronic pilots a taste of this brand of modern warfare in **Chopper Command,** one of the year's most entertaining cartridges for the VCS.

Each player—one or two may participate—uses the joystick to command an armed whirlybird. The 'copter can fly in any direction and fires its weapon with a touch of the action button. The player starts the game

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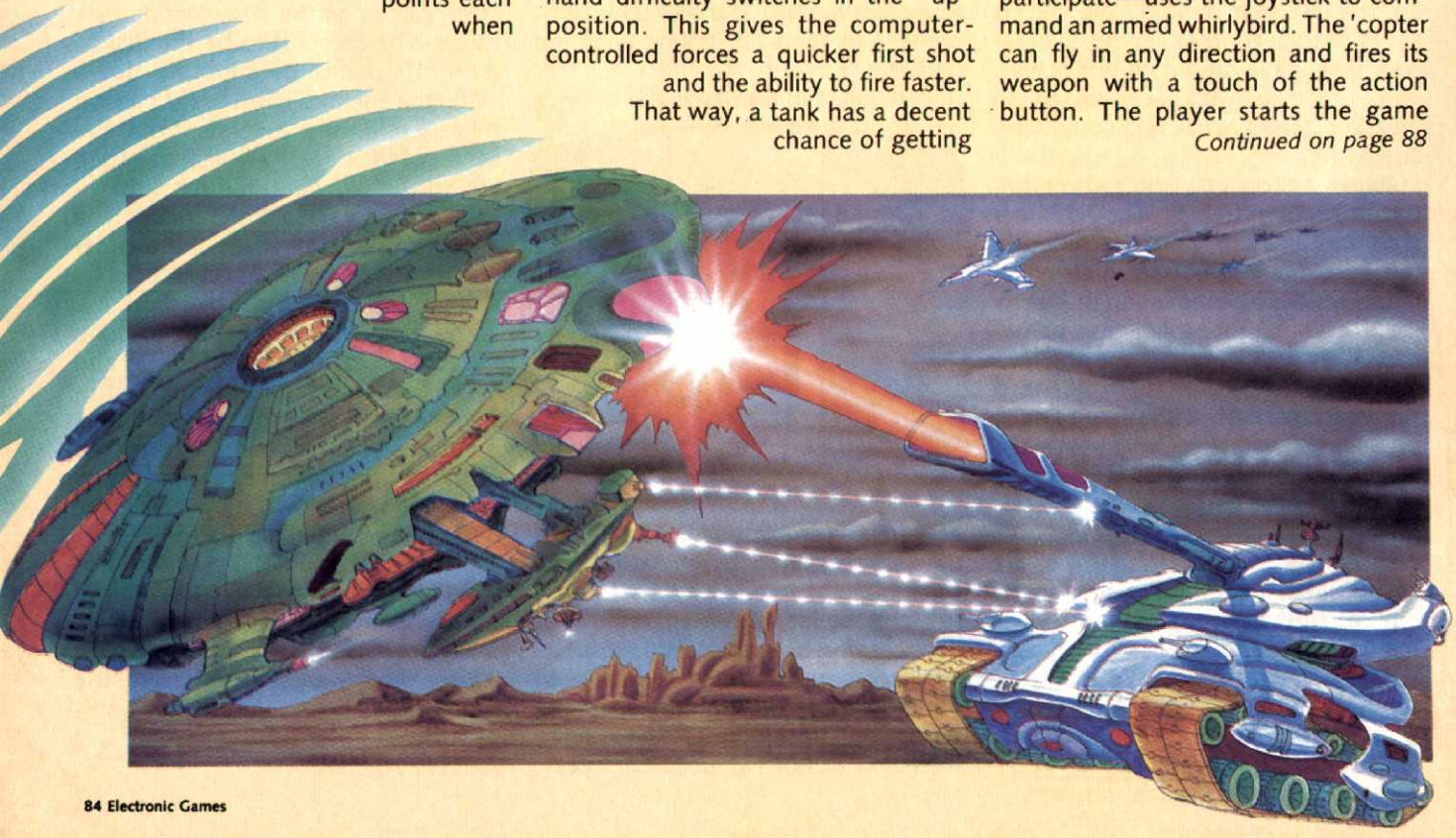

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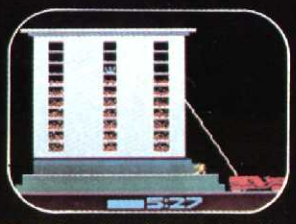

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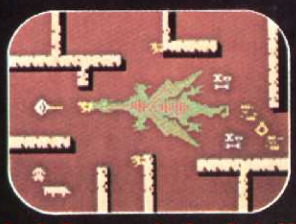

Swords & Serpents for Intellivision. The White Knight explores a maze-like dungeon. Black knights attack. Treasure awaits, but so does danger; dragons, booby traps and an army of enemy knights!

Demon Attack for Intellivision. Demons attack the scientific colony. Maneuver your laser cannon and destroy an army of cunning demons. Seek out their home base and end their treachery forever!

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DEMON ATTACK
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Chopper Command
Continued

with a fleet of three helicopters, available one at a time, and earns a replacement craft by scoring 10,000 points.

You have a two-part mission to accomplish. You must blast as many enemy jets and helicopters out of the sky as possible while safeguarding the truck convoy on the ground from attack.

The opposition assaults your 'copter and the convoy it is sworn to protect in a series of 10 waves, each faster than the one which preceded it. (The 10th wave repeats indefinitely after the first nine are conquered.)

Each wave consists of a mix of a dozen enemy jets and helicopters. There is an equal number of trucks in the convoy at the start of each wave, since the computer automatically replaces damaged vehicles up to that number every time a new enemy sky-fleet takes to the air.

Scoring properly reflects the gamer's twin goals, killing rivals and protecting the convoy. Shooting down a jet counts for 200 points, while blasting an opposing helicopter is worth 100 points. Safely shepherding the trucks earns a hefty bonus. At the end of each wave, the player receives 100 points per surviving truck, multiplied by the number of the wave.

The arcader must split attention between the main playfield and the rectangular radar scope located near the bottom-center of the screen. While the main display may be thought of as showing a slice of territory one mile across, the radar shows a blip for every enemy craft—and convoy vehicle—over a five-mile stretch. Although the radar is generally useless when it comes to lining up shots, it does give a pretty good indication of where your 'copter is needed most in a hurry.

As attractive as *Chopper Command* looks, the first thing most players will notice is the sound. The action comes alive due to the cartridge's outstanding audio effects. The loud bark of machine guns gives the moving images a solidity that they lack in quieter games.

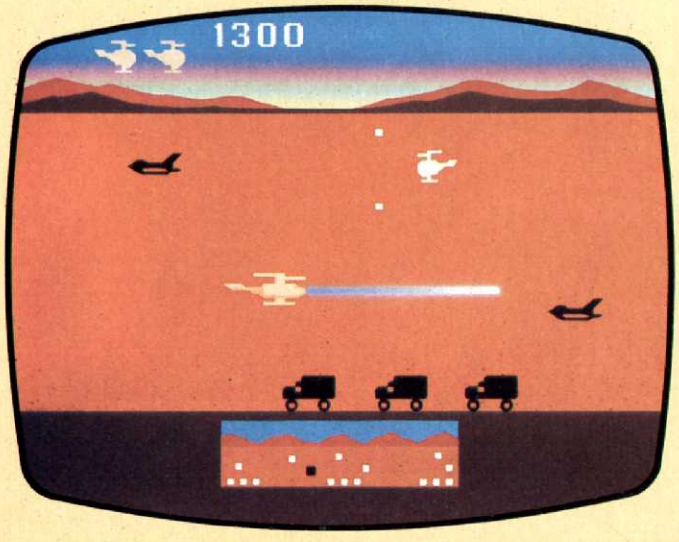
The result is one of the most exciting cartridges you'll ever plug into the slot of your Atari VCS or Sears Tele-Game.

THE INCREDIBLE WIZARD

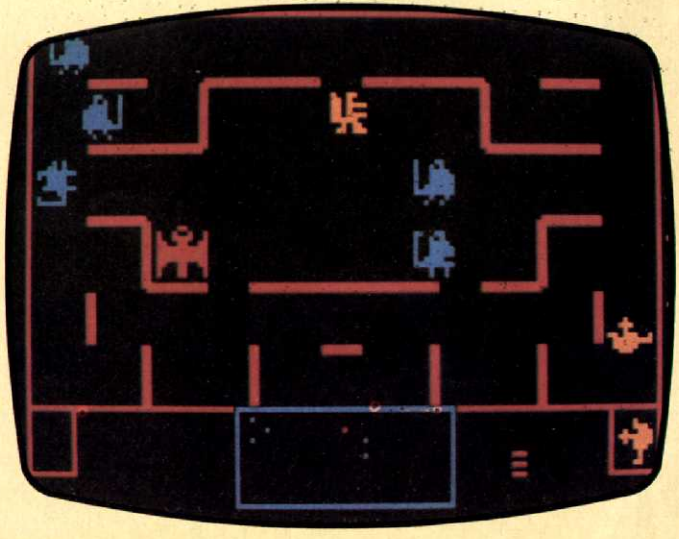
Astrocade/Astrocade
(Bally Professional Arcade)

When you get a little tired of running for your life in the typical maze-chase scenario, **The Incredible Wizard** offers a chance to do something more than just hide from the nasties until you can gulp a power pill. This fine translation of **Wizard of Wor,** done by the original coin-op's designer Bob

CHOPPER COMMAND



THE INCREDIBLE WIZARD



Ogdon, pits one or two players against an assortment of multi-colored monsters and, of course, the Wizard himself.

Although *The Incredible Wizard* is enjoyable as a solitaire contest, it really comes into its own when two arcaders participate at the same time. They can play cooperatively, uniting to clear each board of creatures, or head-to-head to see which one can amass the highest point total for eliminating enemies.

Each player gets a force of seven warriors, colored blue or red for easy identification, to begin the game. When one warrior is killed by getting run over by a monster (or shot by the Wizard's magical lightning bolt), the computer transfers a replacement from the reserve to a small box located in either the lower lefthand or right-hand corner of the playfield. The arcader must put this fighter into the action before an on-screen countdown goes from "10" to zero. Trying to cling to the safety of the start box will only get the warrior pushed out into the maze automatically after the 10-second grace period elapses.

Each round begins with a board full of blue monsters (worth 10 points). These are soon joined, however, by first yellow (20 points) and then orange (30 points) creatures. When all of these attackers are dispatched, a butterfly-like creature appears somewhere on the screen and heads for the right edge of the maze. If either warrior can shoot it before it escapes, point values are doubled for the next round. Should it escape, a new board appears on the screen with the standard scoring values still in force.

Occasionally, the incredible Wizard of the title puts in an appearance. Unlike the monsters, this adversary does more than just attempt to steamroller the warriors. It shoots lightning bolts constantly while on the screen, and only a warrior who's already firing when the malevolent magician pops into view has a decent chance of surviving such a showdown.

The wizard has the effect of quadrupling point values in the next round, so this dangerous prize is definitely one worth seeking.

The game's action takes place in a series of strikingly different mazes, forcing the players to size up the situation quickly each time a round begins. Since the monsters are unarmed, except for the Wizard, the best tactic is to situate your warrior where he can command an unobstructed field of fire. That way, you can see the monsters coming long before they can roll over your position.

But not all the time. The yellow and orange nasties can turn invisible, showing themselves only when in your warrior's direct line of sight. A small radar panel at the bottom of the playfield provides plenty of help in this situation, since it allows the players to follow the progress of invisible attackers as they move up and down the corridors. It's hard to determine a monster's exact position from the screen, but good players can always keep any creature from sneaking up.

Coming hot on the heels of **Galactic Invasion** and **Space Fortress** The Incredible Wizard is further proof that those Astrocade folks do not intend to just sit around watching the manufacturers of other systems hog the limelight.

This back-against-the-wall strategy becomes progressively harder to execute. Each maze fills up the screen just a little less completely than the one which preceded it in the game.

After awhile, your warrior will be completely exposed to attack from all four directions. And when you reach the ultimate maze—which designer Bob Ogdon has dubbed "The Pit"—there aren't any walls at all! Obviously, topflight arcaders will have to learn how to move and fire in one fluid motion.

The program gives a choice of three levels of difficulty. Going from "easy" to "hard" can prove to be a shattering experience. Just when you think you've got the game under control, you'll discover that the monsters are much more ferocious when the cartridge is going full-blast. Going from the novice to the expert level can reduce a player's score to a tenth of what it was. (Of course, that means those who practice on "hard" but play on "easy" may gain a temporary advantage.)

FREEDOM FIGHTER

Odyssey/Odyssey²

What's the best way to follow up on a smash hit? The record and movie industries have wrestled with this question for many years. Now it's the videogame software manufacturers who must make this crucial decision.

One of the companies currently on the hot-seat is Odyssey. The N.A.P. division blasted its way into the hearts of action-game fans with **UFO** in 1981. This deep-space, blast-o-rama was the first pure arcade-style contest issued by the company in some time and conclusively proved that Odyssey² owners are as devoted to this type of cartridge as are VCS, Astrocade and Intellivision partisans.

K.C. Munchkin, the software maker's first bid to assure the allegiance of *UFO*-lovers, presented a play routine poles apart from *UFO* while offering the same high level of excitement as the earlier game. As everyone knows by now, Odyssey's maze-chase did very well in the stores, but it fared more poorly in the courts. Though the ramifications of the case will probably echo for many years, the immediate consequence of Atari's suit was to force *K.C. Munchkin* from the shelves shortly after Christmas.

So the folks at Odyssey turned to **Freedom Fighter** as its best hope for keeping momentum moving in the right direction. It's a good choice. It shares *UFO's* outer space setting and sports visuals quite reminiscent of the earlier title, but it is in no sense merely a rehash. Certainly, gamers who like one will be apt to enjoy the other, but there are plenty of original elements in *Freedom Fighter* to entertain and enthrall most players.

Freedom Fighter is a one-or two-player scrolling shoot-out, set in deep space at some time in the distant future. The control scheme makes use of both joysticks to pilot the on-screen Earth Federation ship. The left-hand stick governs the craft's convention space drive system. Pushing it off-center sends the spaceship flying in the corresponding direction.

The other control unit is used to handle the hyperspace drive. Pushing the stick to the left or right determines in which direction the Earth ship will warp. Pushing this stick automatically overrides anything done with the left-hand stick, an important consideration when two players are participating in a partnership game. It should also be noted that the starship remains in the same vertical plane on the screen during a hyperspace jump.

Freedom Fighter's principal danger comes in the form of hunter-killer drone mines sown along the spacelanes by the Empire's Pulsar warships. The player can disintegrate enemy ships and mines by firing a blast of the Earth ship's laser weapon, accomplished by pressing the action button on either controller.

Blasting a pulsar warship earns five points, each exploded mine counts for one point, and ridding the screen of a piece of wreckage adds one point to the total. Blowing things up, however, is only a small part of this game.

The main show involves using the

Earth Federation vessel to free comrades from their orbiting purple crystal prisons. This is achieved by maneuvering your spaceship so that it makes contact with one of these futuristic jails as it drifts across the playfield.

This version of *Freedom Fighter*, known as the "Attack Mode", is playable by either two arcaders working together, or a solo gamer holding a joystick in each hand.

The "Evasion Mode" is solo or a two-player event—and a really tough one, at that. Your ship's lasers won't operate in this version, so the final score will depend totally on your ability to perform some tricky maneuvers at the helm.

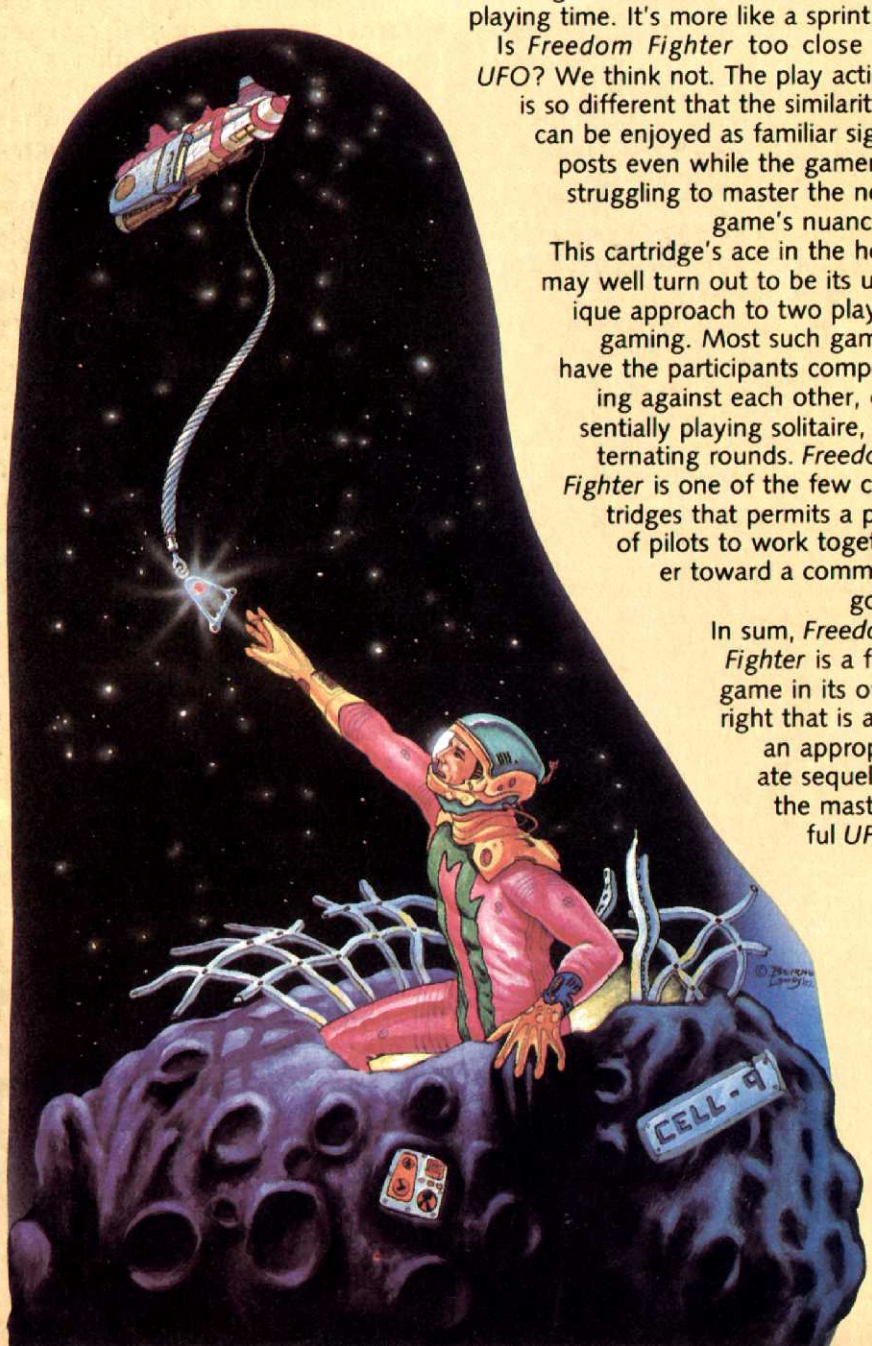
Freedom Fighter's on-screen tote board is standard-issue Odyssey, which means excellent. The score of the game in progress is shown at the bottom right, while the top total for the current play-session is posted at the lower left. The premier point-getter has the option of using the Odyssey keyboard to enter his or her name next to the high score.

Like *UFO*, *Freedom Fighter* is a fast-paced, low-scoring contest. Breaking the 1,000-point barrier causes the player to be promoted to Fleet Admiral, and there aren't likely to be too many officers of this rank.

On the other hand, most seasoned electronic space cadets will probably be able to last at least a little longer before watching their ship flame out of existence in a fiery explosion. With fewer objects on the screen, it's easier to make sweeping moves that carry the lone ship a good distance away from any immediate danger. Still, this is not the sort of game that people will be using to set marathon records for playing time. It's more like a sprint.

Is *Freedom Fighter* too close to *UFO*? We think not. The play action is so different that the similarities can be enjoyed as familiar signposts even while the gamer is struggling to master the new game's nuances. This cartridge's ace in the hole may well turn out to be its unique approach to two player gaming. Most such games have the participants competing against each other, essentially playing solitaire, alternating rounds. *Freedom Fighter* is one of the few cartridges that permits a pair of pilots to work together toward a common goal.

In sum, *Freedom Fighter* is a fine game in its own right that is also an appropriate sequel to the masterful *UFO*.



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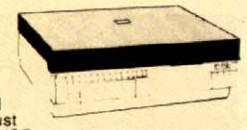

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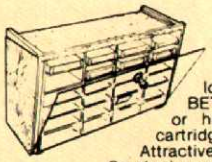

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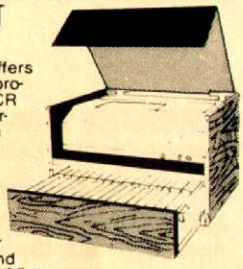

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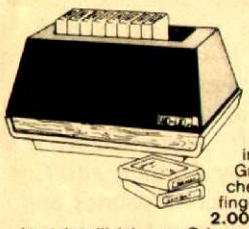

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STAND-ALONE SCENE

By JOYCE WORLEY

ARCADE-TIME

General Consumer Electronics/$39.95

The folks down at GCE have done it again! Arcaders have a never-ending need to know the correct time while simultaneously playing games. *Arcade-Time* is GCE's latest entry in the wristwatch sweepstakes. It follows in the steps of *Game-Time*, but *Arcade-Time* is more attractive with exciting new features.

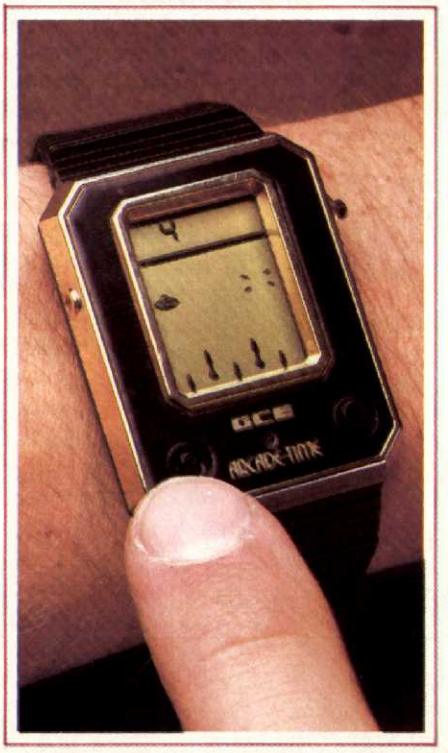
Arcade-Time contains four arcade-style contests: **HyperBlast, Planet Raiders, Galaxy Gunner,** and **Cosmic Clash.** Varied action sounds enhance the play, or the game can be used in silent mode if preferred. The computer retains the highest score for each game, and the score display rolls over after 999. (The high score memory is retained at 999.)

But here's the best news of all. *Arcade-Time* is equipped with its own tiny joystick to move player-controlled objects around the screen! Coupled with a firing button to launch missiles and drop bombs, *Arcade-Time* has the controls necessary for the action games that make this watch a hit.

The first game is *HyperBlast.* The player uses the joystick to move a missile launcher across the bottom of the playfield. Rocket ships, eight per flight group, appear one at a time out of hyperspace, each group also accompanied by one or two flying saucers. Beginning with the second flight, rocket ships are equipped with bombs. The gunner scores one point for each bomb he hits, two points for each rocket ship, and a whopping 10 points for each of the flying saucers. The game ends when the missile launcher has been hit three times.

Planet Raiders, the second game, is something different. The arcader controls a rocket ship in the middle of the playfield. The mission is to protect the five fuel tanks on the ground below, from aliens trying to steal our oil. Saucers appear one at a time at the top of the screen and move down toward the fuel tanks. Each steals a tank, carrying it upward and off the screen into outerspace. If the arcader hits the saucer, he scores points and the fuel tank floats gently back to the ground.

ARCADE TIME



The first wave of four alien saucers is unarmed, but after that, look out! The next four saucers each fire a single photon missile in a random direction After that, the aliens know how to handle themselves in battle. Their aim gets better, and they move much faster! If the player's rocket is hit by an alien, it explodes and then returns. The game continues until all five fuel tanks have been stolen.

Hitting a saucer scores two points, but if it's carrying a stolen fuel tank, it's worth three points. Gamers with a taste for danger can hold their fire until the saucer has lifted a fuel tank, before blasting it out of the sky to recover the oil.

In game three, *Galaxy Gunner,* the arcader must shoot the required number of enemies within a 24 second-per-round time limit. The gamer controls a gunsight, while enemy saucers fly in random zigzag patterns. The player must destroy three saucers in each round to advance to the next level. The score is the number of seconds remaining (out of 24) after three enemy saucers are atomized. Failure to blast three aliens in any round ends the game.

Game four, *Cosmic Clash,* turns *Galaxy Gunner* inside out. In *Cosmic Clash,* the alien controls the gunsight, and the arcader is the saucer. Along the ground are five enemy guns which are being transported out of your range. Your mission is to bomb the guns while they're still on screen. The arcader scores a point for each gun hit, and the game ends when his saucer is hit three times by the enemy's gunsight.

Arcade-Time is much more attractive than its predecessor, *Game-Time.* The black housing is trimmed with gold, and the pretty watchface shows an ever-changing design of the four games' components. The watchband is made to be removed in case you want to carry it in a pocket. All it lacks is a loop so that ladies could wear it as a necklace on a chain, and it would be perfect!

But the play is the thing. All four of the *Arcade-Time* games are exciting and fun. The joystick is easy to maneuver with one finger, and the LCD readout is easy to see indoors or outside. Owning a watch that plays games is an idea whose time has come!

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Sure, watching "the tube" is enjoyable a lot of the time. But today, home entertainment is much more than just broadcast TV. Today, your TV set can bring you movies you choose yourself to play any time you like. Fun and games. Problem-solving, self-improvement, and personal security. Unique, priceless memories of family and friends. Art you create yourself. It's a whole new world . . . the fascinating world of video.

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FT-7 FORTUNE TELLER

Casio/$29.95

When people aren't busy trying to find out the time or add up a whole lot of nines, one of their favorite preoccupations seems to be speculating about what's going to happen tomorrow. Casio's **FT-7** calculator is one way to satisfy all three urges at once.

This vest-pocket unit (2 in. by 4½ in.) is a full function calculator to tell how much all those nines total. The *FT-7* also operates as a timepiece to keep you informed to the nearest second. An alarm function will awaken you when you wish. In fact, you can even set the *FT-7* to buzz hourly in case you need a periodic reminder that time is passing. And the calendar will tell you the correct date.

Once you're awake, and you know what day it is, and you've figured out if you've got enough cash to cover the rent bill, maybe you'd like to know what's in store for you during the next 24 hours. The *FT-7* will oblige you with a reading that has at least as much validity as your favorite newspaper horoscope.

Enter your date of birth, then press the fortune teller key for today's reading. The *FT-7* gives advice in four categories: health, gambling, business and love. On today's date, the calculator says my health is in bad shape, with low strength and stamina. I should avoid fatigue and emphasize rest. Well, could be true. I have a cold, and I'm nursing a sprained foot, so this advice isn't all bad. But I'm not sure I can convince my editor to allow me to rest and avoid fatigue until I complete this installment of "Stand-Alone Scene".

Today my gambling luck is in fair condition. "Don't give up," it advises, "Make an effort. Don't be hasty. Luck will come in the end." That's promising.

My luck in business is only fair today, also. "Conditions seem good, but potential failure. Do not expect to be lucky." I'd better have that talk with my editor. Sounds like this is a good day to skip work and go to the races.

My love life isn't going to be so hot today, either, according to the *FT-7*. "Things seem smooth, but questions will arise in the mind." Mysterious.

The *FT-7* knows that I won't be satisfied with this miserly advice, so I can push either the tomorrow button, and advance it day by day to see what the rest of the week will bring, or I can push yesterday and find out what went wrong.

If I want to know what a specific date in the future looks like, let's say September 11, 1982, I can enter that. Maybe this will help me plan a better vacation. But since the *FT-7* says this is a bad day for gambling, I'd best not plan to go to Vegas then. The *FT-7* will help me find a more auspicious time.

The *FT-7* also lets me enter the date of birth of another person so I can check our compatibility in the areas of health, gambling, business and love. Here again, I can check yesterday, today or tomorrow, or advance and regress the dates at will. Planning a wedding? Enter the date and see what the omens are. Or if I want to make that trip to Las Vegas with my friend, I can enter our traveling date and see how our combined luck will be at that time.

This is fun to play around with, and anyone who needs a calculator to help them make their decisions will get a kick out of this one. Unfortunately, the guarantees that come with *FT-7* deal only with the mechanics of the machine. The instruction booklet carries a message, "Casio bears no responsibility for decisions that are taken based on readings given by the *FT-7*." I'm afraid this means that the Company won't make good on any of my losses at the video card-playing machines.

HEAD-TO-HEAD BASEBALL

Coleco/$29.95

The park is full of cheering fans. You've got a hotdog in one hand and a can of orange pop in the other, and the teams are taking the field. Settle down for an afternoon of fun, and get ready to play ball!

Coleco's **Head-to-Head Baseball** may not be exactly like a trip to see the boys of summer, but it's about as close as you can get to simulating the game in hand-held form. What it lacks in realism, it makes up for by portability. This stand-alone unit provides good fun for one or two players, with two skill levels that make it playable by either an amateur or a knowledgeable baseball fan.

Five batting keys control the offensive team against either the computer or another gamer. Pushing the "N" (next batter) key, displays the new man's batting average, inning, number of outs, and men on base. When the key is released, the pitcher is ready. All batters hit at their average except when the power option key is pressed.

The power option key increases the batter's chance for a long ball. Push "P" when the pitcher's mound is lit, before the ball is released. The batter will hit approximately 50 points below his average, but has a better chance of scoring a double, triple or home run.

Push the "B" key (bunt option) when the pitcher's mound is lit, and the swing key as the ball crosses home plate. If you connect with the ball, the base runners advance one base, and the batter is sacrified out. If no runners are on base, the batters will ground out.

Press "S" when the pitcher's mound light is on, to operate the steal option key. This controls base stealing, tagging up, and hit and runs.

The power option, bunt option and steal option inputs can be used individually or in any combination of two, to execute offensive strategies.

In two-player games, four pitching keys control the action. The pitcher chooses fast ball, slow ball, curve or slider, and the computer selects one of eight pitching speeds. In one-player games, pitching is controlled by the computer.

A double play occurs if the batter grounds out when a runner is on base. Runners don't advance if the batter grounds out, unless the steal key has been used. Runners advance one base on a bunt, but the batter is called out at first. Runners always advance the same number of bases as the batter, except when the steal key is used. If a curve is thrown, and a steal is on, the lead runner is called out. In case of a tie score at the end of nine innings, the game goes into extra innings, and the team that's ahead at the bottom of any subsequent inning is the winner.

The scoreboard displays strikes, balls, outs, inning, score, team at bat, batting averages, and results of each at bat. The unit has a variety of game sounds to enhance the action, starting wtih "Take Me Out to the Ball Game" to begin the game and also to signal a home run, the "Charge" tune for walks and successful hits, and various whistles and beeps.

Head-to-Head Baseball does not depend on clever animation for its appeal. Red lights represent pitched balls, or indicate the location of runners on base. Fielding is not visible; the results of each hit are chosen by the computer in accordance with the batter's average, and displayed on the scoreboard.

But even without animation, *Head-to-Head Baseball* is an attractive unit, styled in green and tan to give a ballpark appearance. The batting and pitching controls are housed in recesses that shield them from view of the opposing player, so the arcader can choose his play in secret. Coleco provides several strategy hints for offensive and defensive players in the well-written instruction manual. As an added bonus, each unit comes with a special "Manager's Handbook" which describes numerous gaming situations and gives pointers on how to best handle each problem.

STAND-ALONE SCENE

COSMIC COMBAT

Tomy/$40

Alien invaders are coming from outer space, and once again it's up to the hard-working arcader to turn back the forces that threaten our world. This time the gamer is faced with a mini-horde, but they're mean and nasty and dropping bombs on the unshielded battle station at a furious rate.

Cosmic Combat is the latest entry in the invasion game field. This miniature from Tomy will keep earth's defenders busy in the unending battle to save our planet from destruction.

The arcader chooses from two skill levels and picks the number of defender cannons, from one to five. The unit is comfortably sized for hand-held play, roughly 5 in. by 8 in. A miniature joystick moves the cannon across the bottom of the screen, while a shoot button fires missiles at the enemy.

The screen measures 1 in. by 3 in., and holds a dozen aliens, in three rows of four meanies each. A flying saucer zips across the top of the screen, as the aliens relentlessly march back and forth drawing ever closer to the defender's battlefield. Shooting an invader is worth from 2 to 6 points, depending on how near the battle station they are when destroyed, and hitting a UFO scores 20, 30 or 40 points depending on when it is shot.

Skill level 1 is very easy. The aliens drop few bombs, and these fall slowly enough to evade. The arcader should hold his cannon in one place, and simply pick off the aliens as they stomp past, moving only when absolutely necessary to avoid one of the bombs that slowly drift down.

Skill level 2 provides more challenge. The invaders have more ammunition and the bombs fall faster. The arcader must stay alert, zipping his cannon back and forth on the screen to avoid being hit.

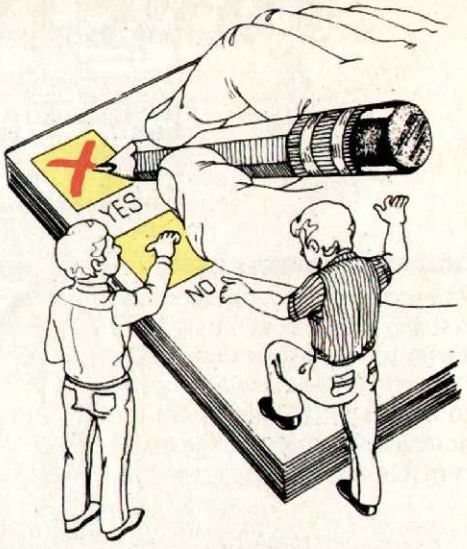
Animation is by matrixing, and this is always successful for an invasion type game. Color is provided by overlays. The defender cannon is bright blue. The aliens are green when high in the sky, but turn turquoise as they get closer to the bottom of the screen. The UFO is sky blue. When either the UFO or the defender cannon is destroyed, a red explosion flares against the black playfield.

Successfully blasting all the aliens before they reach the bottom of the screen causes another horde to appear, until you reach the maximum points possible, 999. Attaining 999 points ends the game with a handsome fanfaronade for the arcader's reward.

Cosmic Combat plays a good game, holding the arcader's attention to the point of being downright habit-forming! The simplicity of the play action invites earth's champions to repeat the game over and over again in an unending attempt to destroy the mob of meanies marching down the screen. After all, it's a tough job, but someone has to save the world!

COSMIC COMBAT

READER POLL



Interaction between the readers and editors of **Electronic Games** helps make this a better magazine. The more we here at **EG** know about who you are and what you want to read, the better we can satisfy your needs and desires. That's why we run a Reader Poll in every single issue of this magazine. Rest assured that, even though we protect the anonymity of every respondent to our survey, the editor personally reads each and every ballot received. And of course, this is also your ballot for casting your vote for the most popular videogames, computer game programs and coin-op arcade machines.

Please return this poll sheet—or a photocopy if you prefer to keep your **Electronic Games** in perfect condition—to: Electronic Games, 235 Park Avenue South, New York, N.Y. 10003.

Sex: Male____ Female____

Age: Under 14____ 15-17____ 18-19____ 20-21____
25-29____ 30-34____ 35-44____ 45+____

Household Income:

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$5000-9999_____

$10,000-14,999_____

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Marital Status: Single____ Married____

Number of Children in Household:

Ages:
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Please rate the following features from 1 (awful) to 10 (great):

Switch On!____Q&A____Test Lab____E.G. Hotline____

Computer Playland____Programmable Parade____

Insert Coin Here____Strategy Session____

Arcade America____Passport to Adventure____

Inside Gaming____Stand-Alone Scene____

Players Guide____

How many hours per week do you spend playing various types of electronic games:

Less than 2 hours____ 2-5 hours____ 6-10 hours____

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1. _____
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3. _____

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1. _____
2. _____
3. _____

My favorite coin-op games are:

1. _____
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COMING NEXT IN electronic GAMES

VIDEOGAME PREVIEW 1983

There'll be more new videogames than you can shake a joystick at hitting store shelves over the next six months. EG's top editors go behind closed company doors to deliver the real scoop on the fantastic new software for all the major programmable home videogame systems.

There'll be plenty of other exciting articles and features of interest to arcade addicts, plus these regular columns:

- ★ Switch On!
- ★ Q&A
- ★ Inside Gaming
- ★ Arcade America
- ★ Computer Playland
- ★ Programmable Parade
- ★ New Products
- ★ Test Lab
- ★ Editors' Choice
- ★ Stand-Alone Scene
- ★ Mini-Arcade Gallery
- ★ Coin-Op Classroom
- ★ Strategy Session
- ★ Insert Coin Here
- ★ Passport to Adventure
- ★ Readers Replay
- ★ EG Hotline
- ★ Games Library

THE PLAYERS GUIDE TO ELECTRONIC FOOTBALL

Our magazine-within-a-magazine kicks off the indoor gaming season with a thorough examination of pigskin games for programmable videogames and microcomputers.

CUSTOMIZING THE COLECO PAC-MAN

Who says you can't make a good thing even better? Our top techno shows how to easily add a real joystick and AC adaptor to this fabulous stand-alone device.

THE SPECIAL EFFECTS OF TRON

Our exclusive coverage of Disney's videogaming fantasy continues with a behind-the-scenes look at how the studio created those magnificent animation sequences.

And introducing the most eagerly awaited new column this year —

PINBALL PALACE!

World-famous flipper game authority Roger Sharp begins a regular monthly review column covering the latest and greatest coin-op pinball machines.

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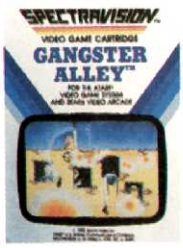

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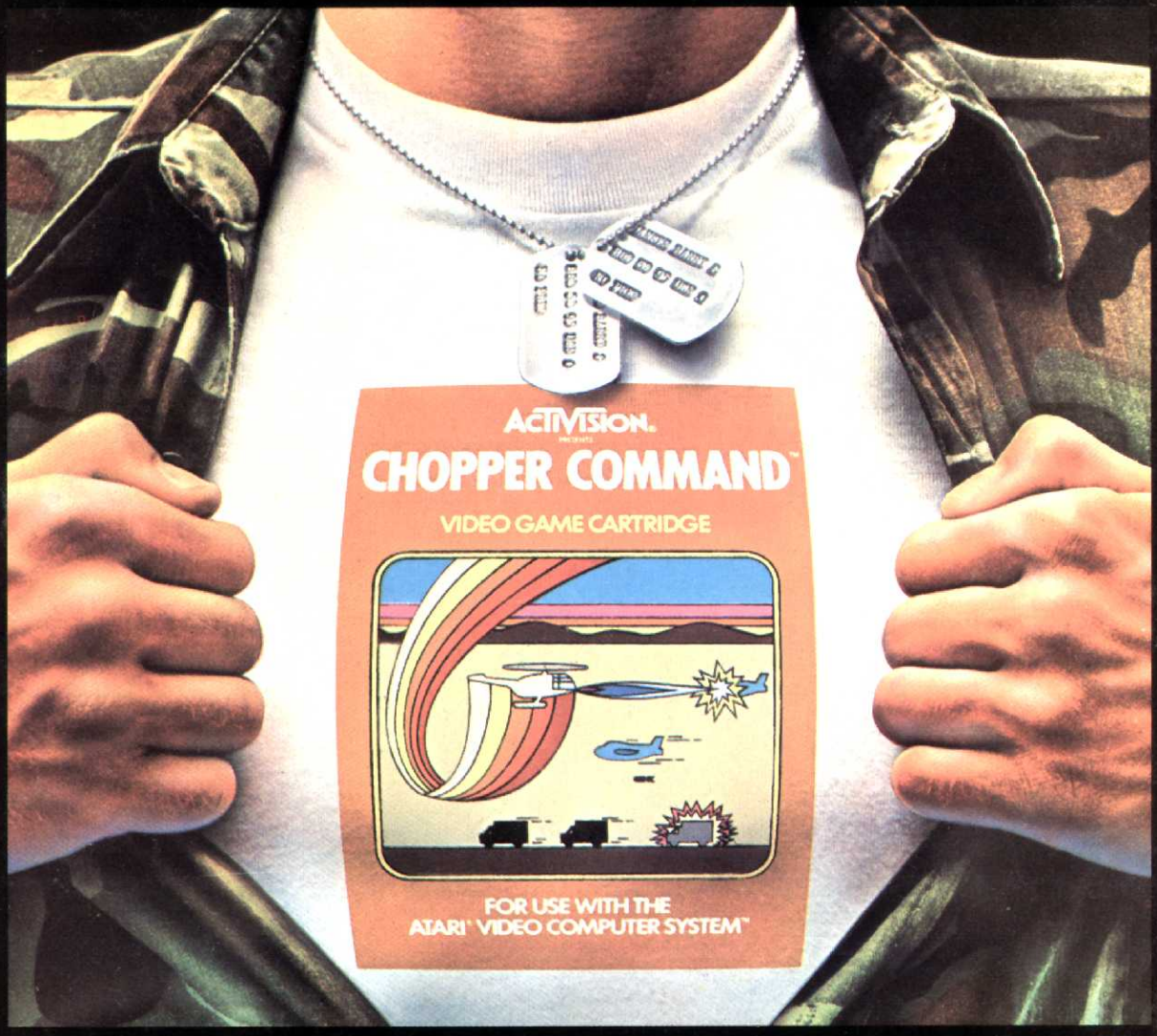

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